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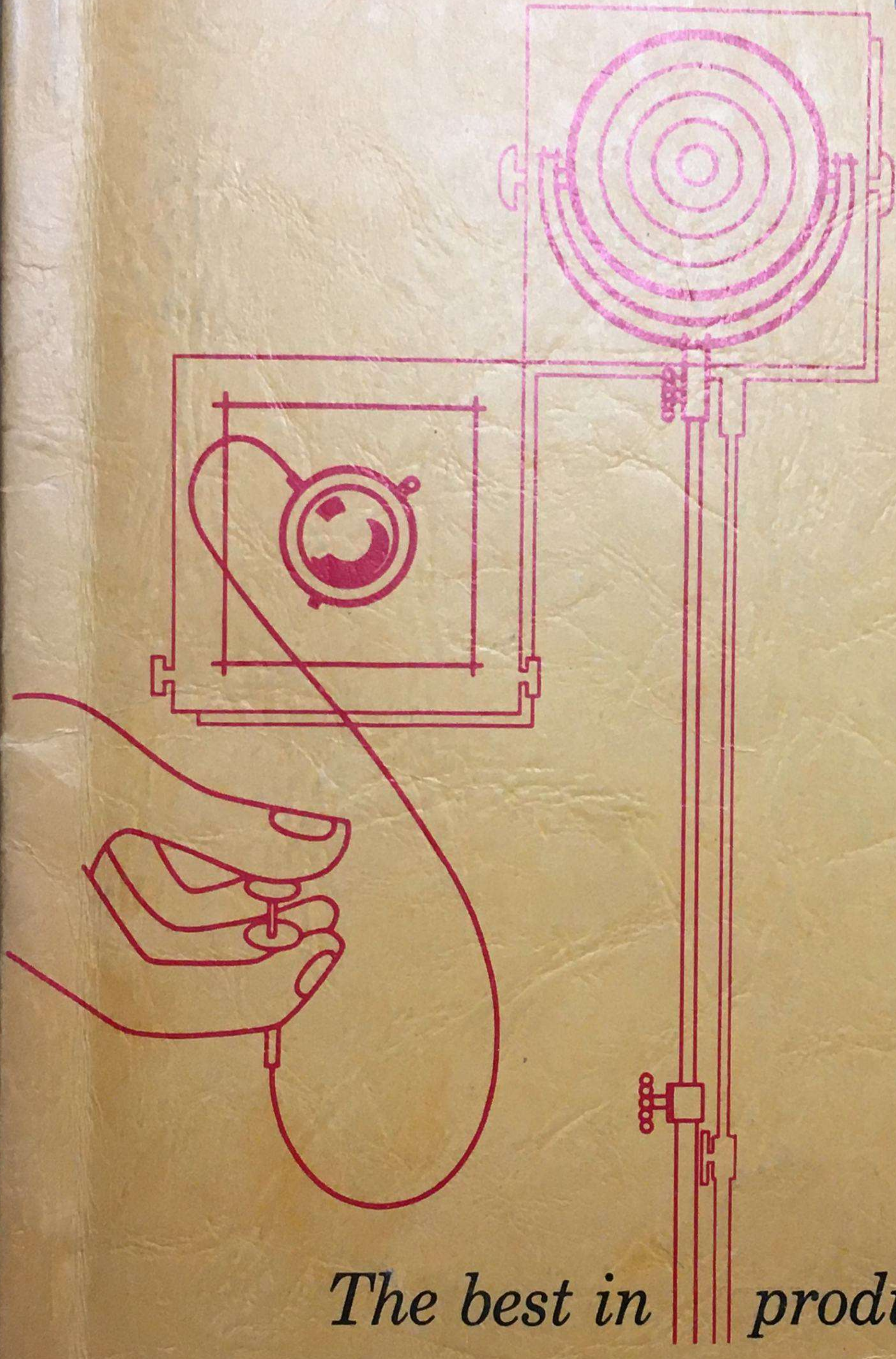
PHOTOGRAPHIC CATALOG



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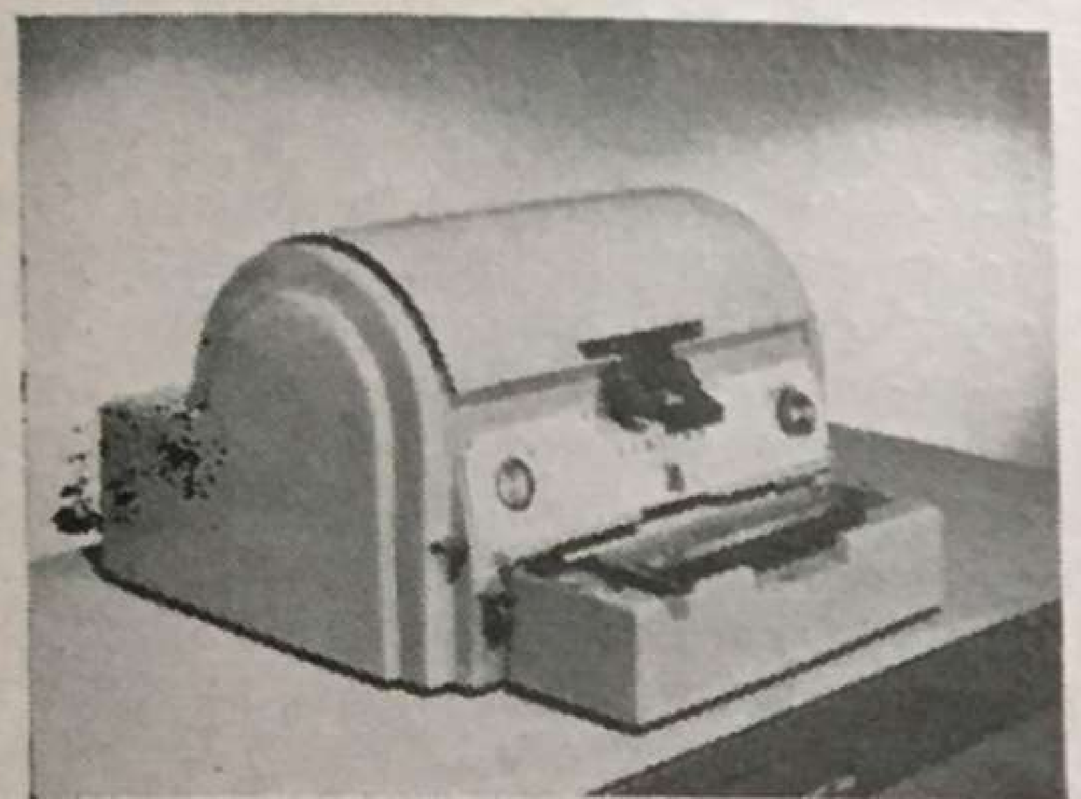
VERIFAX & EKTALITH

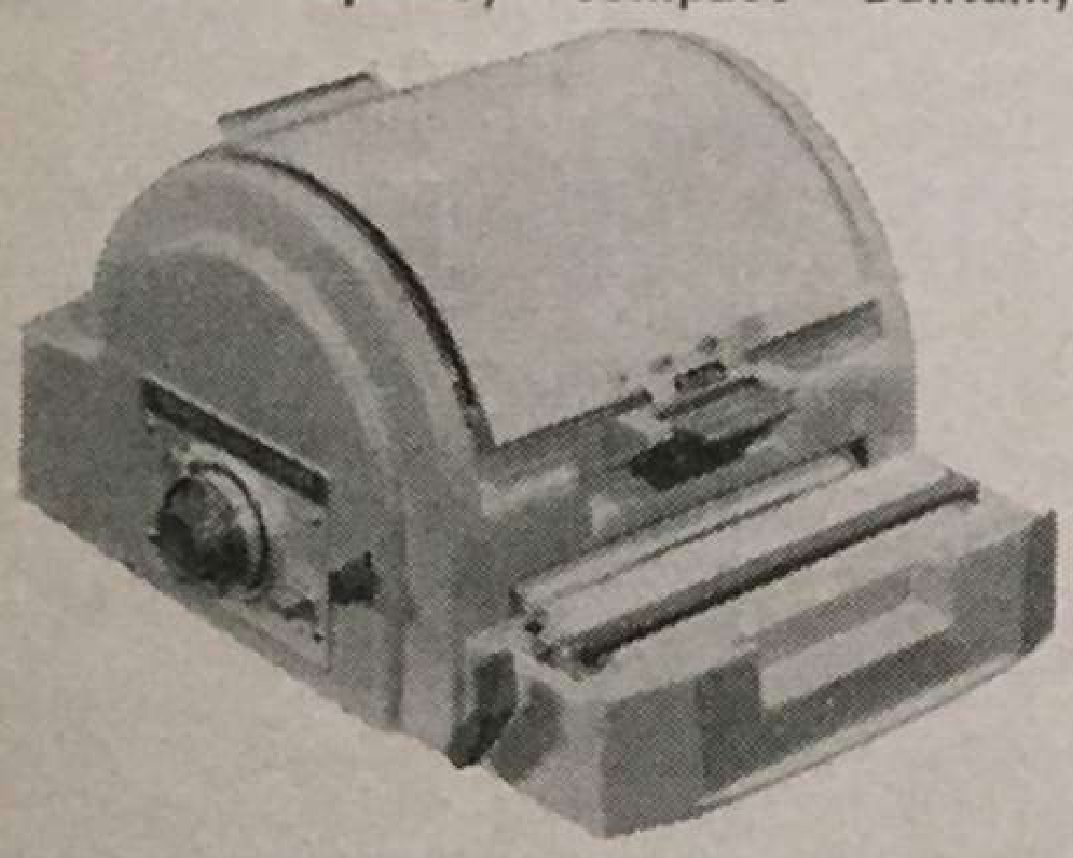
verifax copiers

NEW KODAK VERIFAX 11x17 COPIER Reproduces two letters at the same time. Using 11x17" matrix permits copying of maps, drawings, and other large documents. Four-page, letter-size folders, such as income tax forms and employment applications, can be copied with only two exposures, resulting in four-page copies exactly like original. Matrix insertion and feeding and positioning of copy paper are semi-automatic. Unit holds up to 100 sheets of copy paper. Copy paper tray with side guides and backstops capable of handling letter, legal, and 11x17" copy paper is provided. Single lever provides for quick size change. Simple accessory tray for handling translucent and card weight copy paper having an additional two-inch "tab" is available.



An 11x17" Verifax Matrix Dispenser is supplied with the new unit. Letter and legal size dispensers are available. 24" Wide, 23" Deep and 14" High, weighs 41 lbs.

VERIFAX BANTAM COPIER, MODEL B is a letter-size copier offering essentially the same advances in styling and design as the Model B Signet Copier. Its soft pastel greens harmonize with most modern office decor. Its use of pretrimmed copy paper speeds the making of copies. And its greater paper storage capacity contributes to increased operating convenience. In other respects the Bantam, Model B is similar to the capable, compact Bantam, Model A. Still well within the "budget" price range, is an ideal unit for the small concern or for multiple installations in larger organizations where, through convenient location, it can quickly pay for itself by eliminating frequent walks to a distant copier. Operates on 115 volts AC, **$132.50**



VERIFAX BANTAM COPIER, MODEL A. This copier brings you the savings, convenience, and the other advantages of Verifax copying at a price any office can afford. Costing far less than most other office copiers, the Bantam offers true Verifax operating ease, dependability and versatility. Will copy practically any written, typed, drawn, or printed original up through 8½x11". Light for exposure is provided by a bank of longlife lamps. Bantam also has a dependable built-in timer for exposing and activating, a storage compartment for copy paper with simple roller-type feed, and an easily removable activator tray. Storage space for matrix is provided by a separate matrix dispenser. Weighs only 14 pounds, plugs into any 115-volt AC outlet, **$99.50**

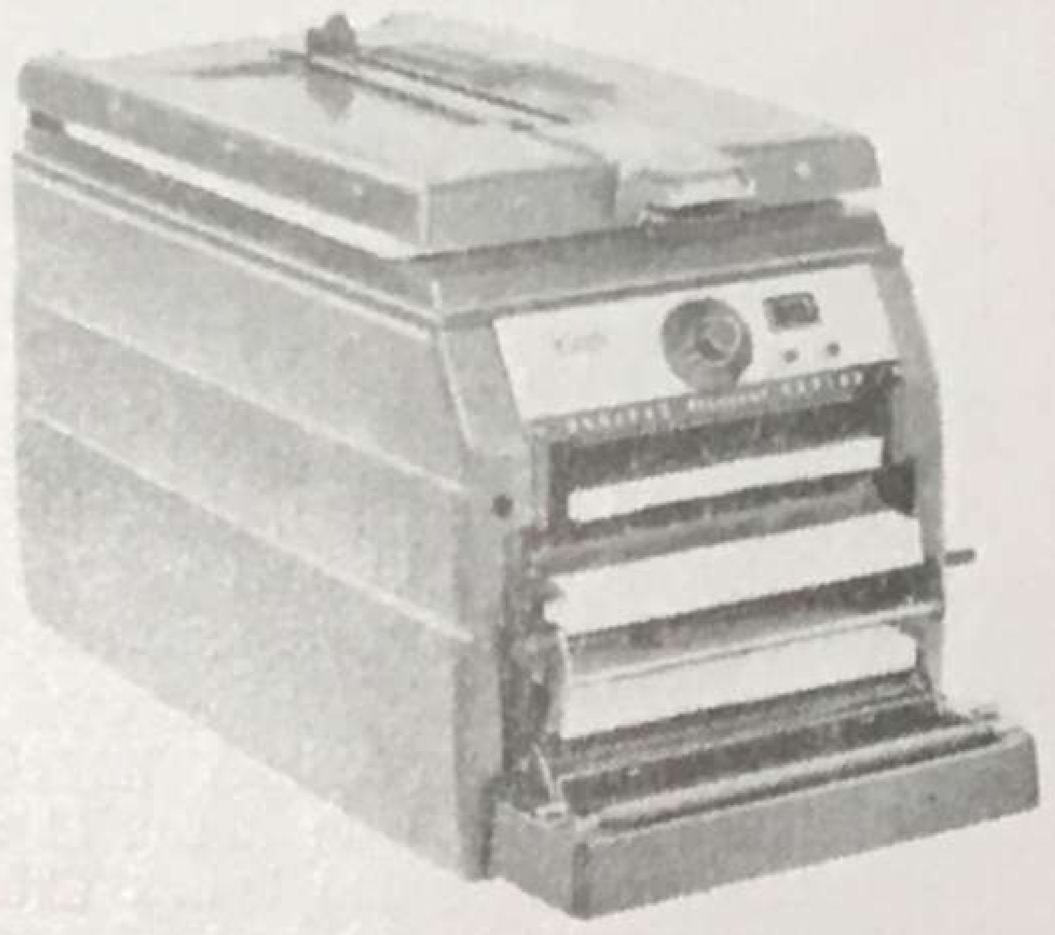
VERIFAX SIGNET COPIER, MODEL B. An improved version of the original and popular one-man office copier, the Signet, Model B combines legal-document capacity with attractive styling and new convenience features. A pleasing beige in color, this Verifax Copier is designed to make copies on pretrimmed (exact size) copy paper, thereby eliminating final trimming step. Need for frequent paper reloading is reduced through increased copy-paper storage capacity, holds up to 120 sheets. Built-in timer makes a more compact unit.

Basically similar to other Verifax Copiers in operation, the Signet, Model B uses an overhead light source, exposing the matrix through a heavy dot-screened glass plate that holds matrix and original in contact. Support provided for this plate can be retracted, when desired, to copy portions of oversize originals. Simple roller mechanism feeds pretrimmed copy paper into place. Operates on 115 volts AC. Trim, capable, modestly priced, the Signet Copier is suited to the copying needs both of small offices and of large companies with multiple-copier installation programs, **$175**

VERIFAX REGENT COPIER because of its self-contained design, compactness, and extra capability will prove especially suitable for many offices that regularly copy letter-size and smaller originals. Regent can be used to copy not only single sheets but also the pages of books and magazines. Is also an excellent copier for large-volume applications. Since copy paper is fed automatically, and exposure and activation operations can be overlapped and timed separately, the Regent can often cut over-all copying time markedly. Requiring a minimum of table space, operating on 115-volt 60-cycle current, the Regent can be placed and used almost anywhere. Entirely self-contained, it has compartments for both matrix and copy-paper, built-in exposure and activation timers, and a built-in trimmer. Squeegee-roller unit is designed for easy, effortless withdrawal of the activated matrix sheet in contact with a sheet of copy paper. Proved by performance, this copier can be counted on to give dependable, trouble-free service wherever it may be used, **$240**

VERIFAX Regent COPIER

VERIFAX VISCOUNT COPIER has many special features and refinements that make it a valuable addition to any office regularly handling both standard and "over-size" documents and papers



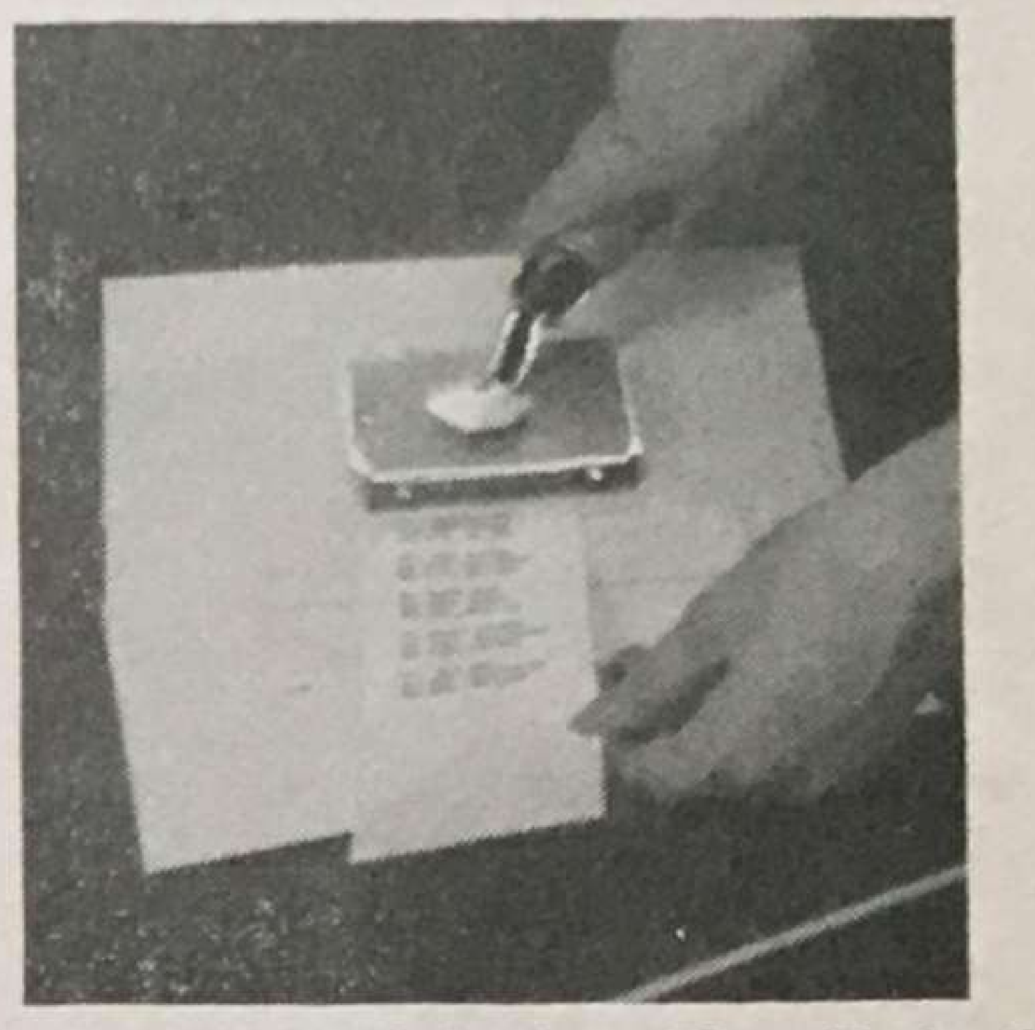
You can easily and quickly copy accounting forms, financial reports, legal documents, drawings,—any original up through 10x16"; including complete sides of many standard 4-page forms. And you can copy letters and smaller originals with even greater ease and speed. Special features include: electronic "stop-and-go" timer that is used for both exposing and activating; spring-balanced lid that stays in any position without being held; retractable cover latch that permits exposing sections of oversize originals; and an independent copy-paper feed that simplifies positioning of the copy paper before it is removed with the matrix sheet. An ingenious replenisher arrangement keeps the activator up to strength, and at the proper interval. Requires but little more table space than other Verifax models. Steel-frame construction contributes to its sturdiness, rigidity, and dependability. Operates on 115-volts, AC, and is Underwriters approved, **$425**

VERIFAX BOOK COPYING UNIT. Copies book and magazine pages easily and quickly by Kodak's unique and widely used Verifax copying method. They are complete and photo-accurate, on white, bond-type paper, one or both sides, as desired, easy to read, fold, file, and write on and are as permanent as a printed page. Accommodating pages up to 8½x11", it will successfully copy 95% of the material to be found in the average library. An important feature of this unit is the vertical, wedge-shaped exposure section, into which the page to be copied can be inserted, facing a sheet of Verifax Matrix Paper. The opened volume rests on top of the unit. A special, thin-section platen makes it possible to copy text that almost disappears into the binding, without damaging the binding itself. After exposure, a Verifax Copier is used for activating the matrix and for making the final copies. If desired, the activation can be delayed for several days, so long as the exposed matrix is kept in a lighttight envelope or other container. Weighing only 13 pounds, the Verifax Book Copying Unit can be easily carried to a library or other copying location. Anyone can use it, without special training, simply by following the concise instructions printed on the nameplate. To assure exact exposures at any location, a voltage compensating device is provided, which indicates the correct normal exposure, regardless of possible line voltage differences from place to place. Operates on 105 to 125 volts AC 50 or 60 cycles. Light source consists of an assembly of 20 7-watt lamps having a 1500-hour estimated life. 3-wire power cord and ground adapter supplied, **$185**

Kodak
VERIFAX
BOOK COPYING UNIT

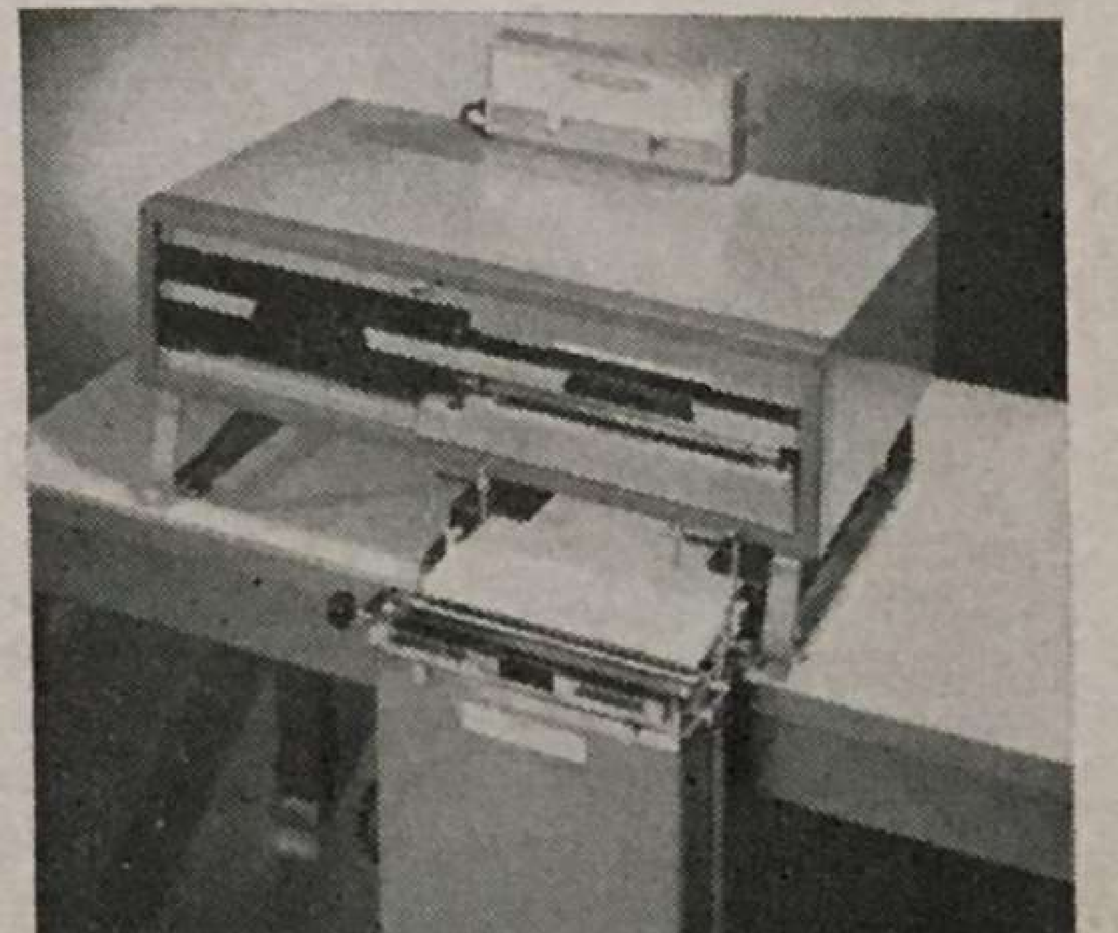
verifax accessories

V*LABELS (heat-seal label material) are quickly made for easy addressing of mailing pieces or identification of 3x5 cards, monthly statements, file-folders, etc. Made especially for reproduction on the VERIFAX Copier. "One Typing" does the job—then your VERIFAX-Copied V*LABELS may be used for all repeat identification. V*LABELS (150 sheets to pkg., for approximately 6,000 labels) **$11.95; ph-MOUNTER** (for affixing V* LABELS) **$8.95; ph-CORRECTION PAPER** (25-strip pad of special paper for Copier use or offset reproduction, to make approximately 1800 typed line corrections) **$1.95**



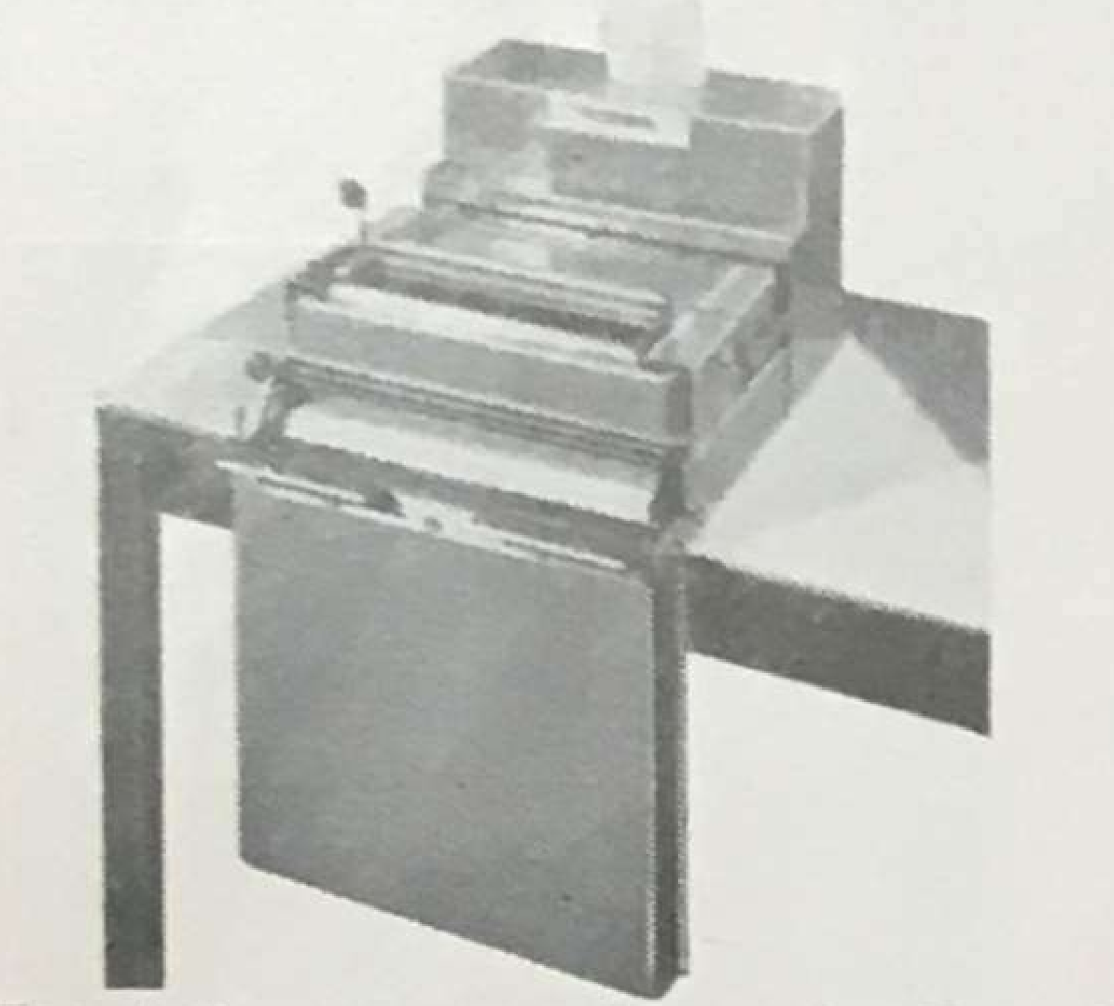
ektalith equipment

KODAK EKTALITH LOADER-PROCESSOR, MODEL 1 with Kodak Ektalith Transfer Unit (Model 1). Offset masters can be conveniently prepared in room light using Ektalith Loader-Processor and Transfer Unit. Intended for use with office-type copying camera, the Loader-Processor is specially designed for daylight storing, handling, and processing of 9x11" and 9x14" Kodak Ektalith Transfer Paper. Includes Kodak Ektalith Transfer Paper Holder (9x11" or 9x14"), storage compartment for 75 sheets of Transfer Paper, and activator section with heater and temperature control system, all housed in trim, compact, attractively-styled metal cabinet. Handy, pushbutton-controlled electrical timer on top of cabinet indicates duration of processing interval. Ektalith Transfer Unit used with Loader-Processor permits positioning Transfer Paper photo-images on standard-size paper or metal masters up to 10x15".



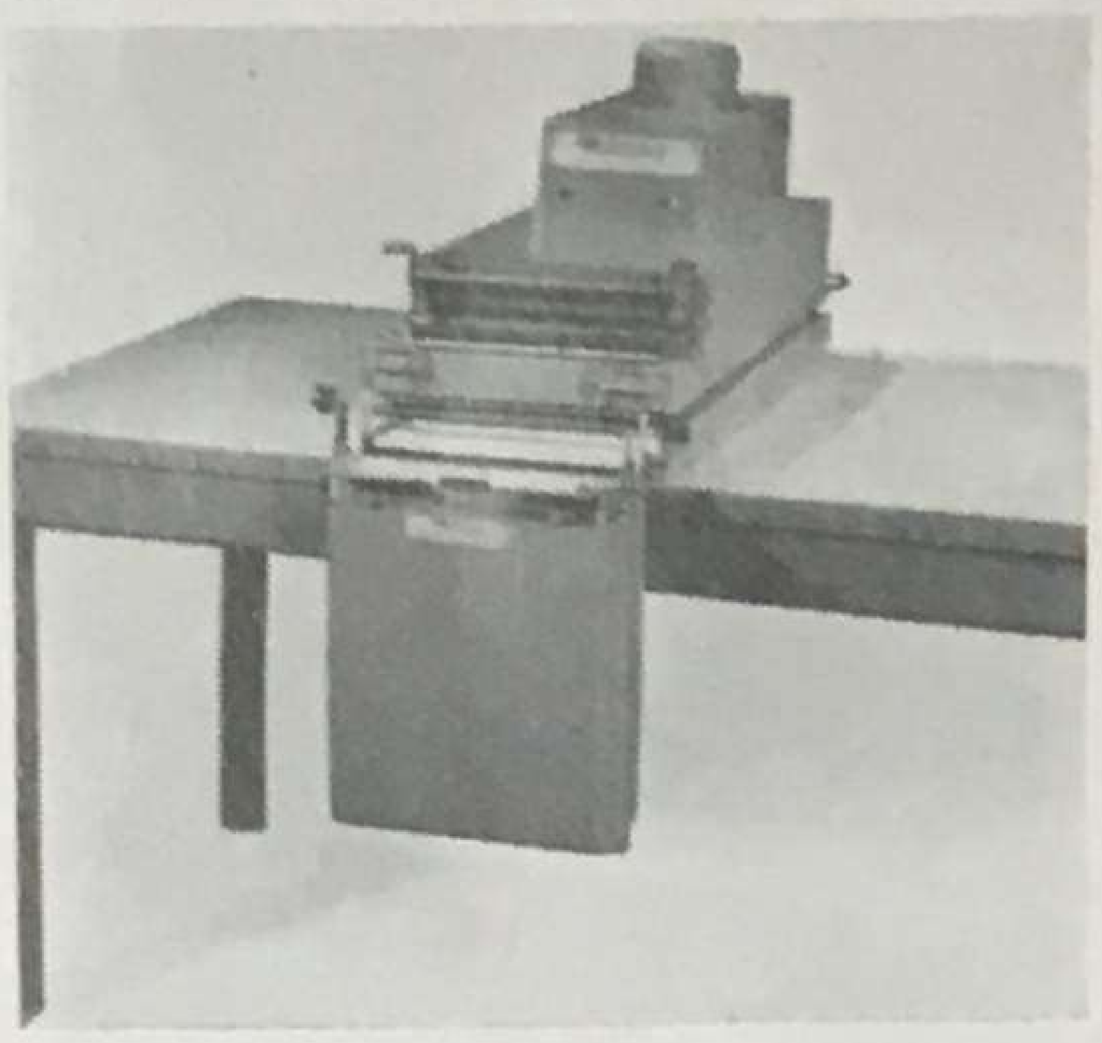
Finished in two-tone gray enamel, 27" long, 18" wide & 17" high. Plugs into 110-volt AC outlet, is Underwriters-approved. **$598.50;** without Transfer Unit, **$500**

KODAK EKTALITH PROCESSOR, MODEL 20. Designed for producing offset paper masters from Kodak Ektalith Transfer Paper that has been exposed in darkroom camera. Processor accepts Kodak Ektalith Transfer Paper up to 12x18" size and its Transfer Unit, a 15¼x20½" maximum master size. Provision also made for using 9x11" or 9x14" Transfer Paper with image being transferred to masters up to 15¼x 20½". Includes storage compartment for offset masters, activator section with heater and temperature control system, and Transfer Unit. Replenisher arrangement keeps activator solution up to strength and at proper level.

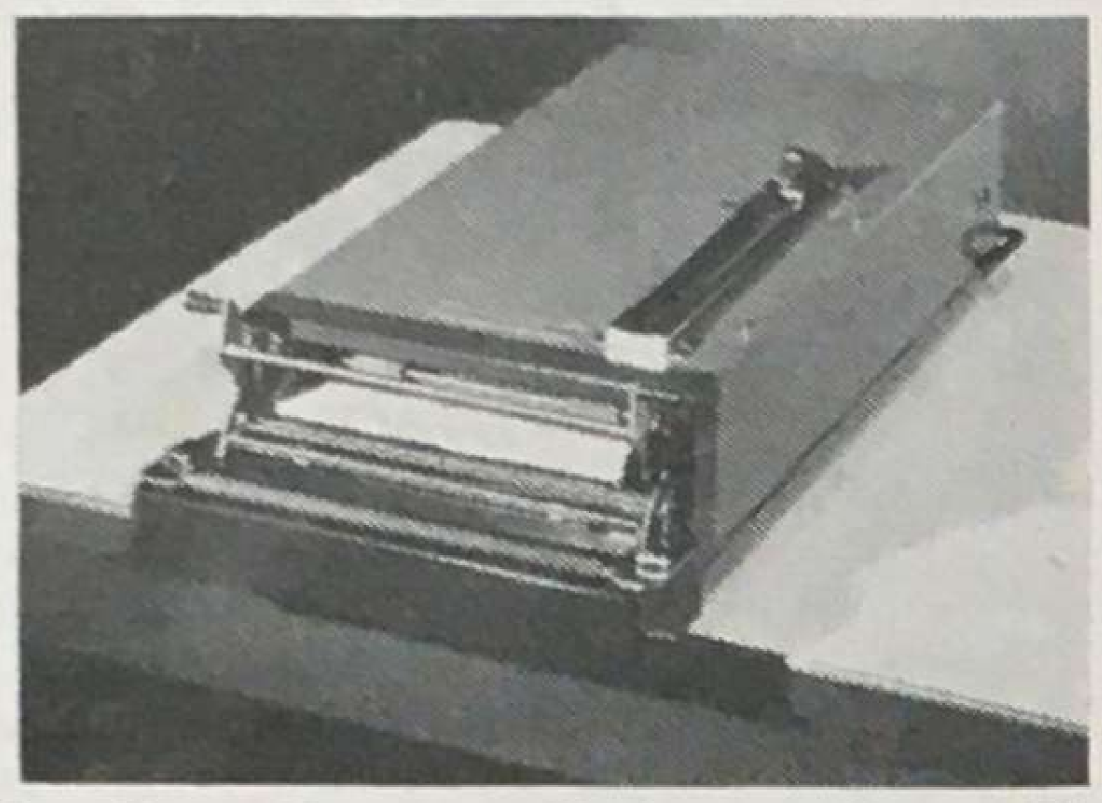


For darkroom convenience, duration of processing interval is indicated by red signal light and buzzer controlled by pushbutton-type electrical timer. Housed in trim, compact metal cabinet finished in two-tone gray enamel. Sturdily constructed throughout, 30" long, 20" wide & 18" high. Plugs into 110-volt AC line; is Underwriters-approved, **$875**

KODAK EKTALITH PROCESSOR, MODEL 10. Designed for darkroom processing of Kodak Ektalith Transfer Paper exposed in darkroom camera. Accepts 9x11" or 9x14" Transfer Paper with image transferred to masters up to 10x15". Includes storage compartment for offset masters, activators section with heater and temperature control system, and Transfer Unit. Replenisher arrangement keeps activator solution up to strength and at proper level. For darkroom convenience, duration of processing interval is indicated by red signal light and buzzer controlled by pushbutton-type electrical timer. Housed in trim, compact metal cabinet finished in two-tone gray enamel. Sturdily constructed throughout, 28" long, 13½" wide & 11" high. Plugs into 110-volt AC line; is Underwriters-approved. **$450**



KODAK EKTALITH COPY UNIT (MODEL 1). Designed for use with Kodak Ektalith Loader-Processor and Kodak Ektalith Processor, Model 10 or Model 20, in making direct copies on Kodak Ektalith Copy Paper from processed images on 9x11" and 9x14" Ektalith Transfer Paper. Includes storage compartment for Copy Paper, activator section with heater and temperature control system, and transfer mechanism for bringing Copy Paper and Transfer Paper together, ready for transfer. Housed in trim, two-tone gray enamel-finished metal cabinet. Paper trimmer on top of cabinet for quickly trimming copies to standard 8½x11" size where desired; 28" long, 13½" wide & 6½" high. Operates on 110-volts AC-DC, is Underwriters-approved, **$190**



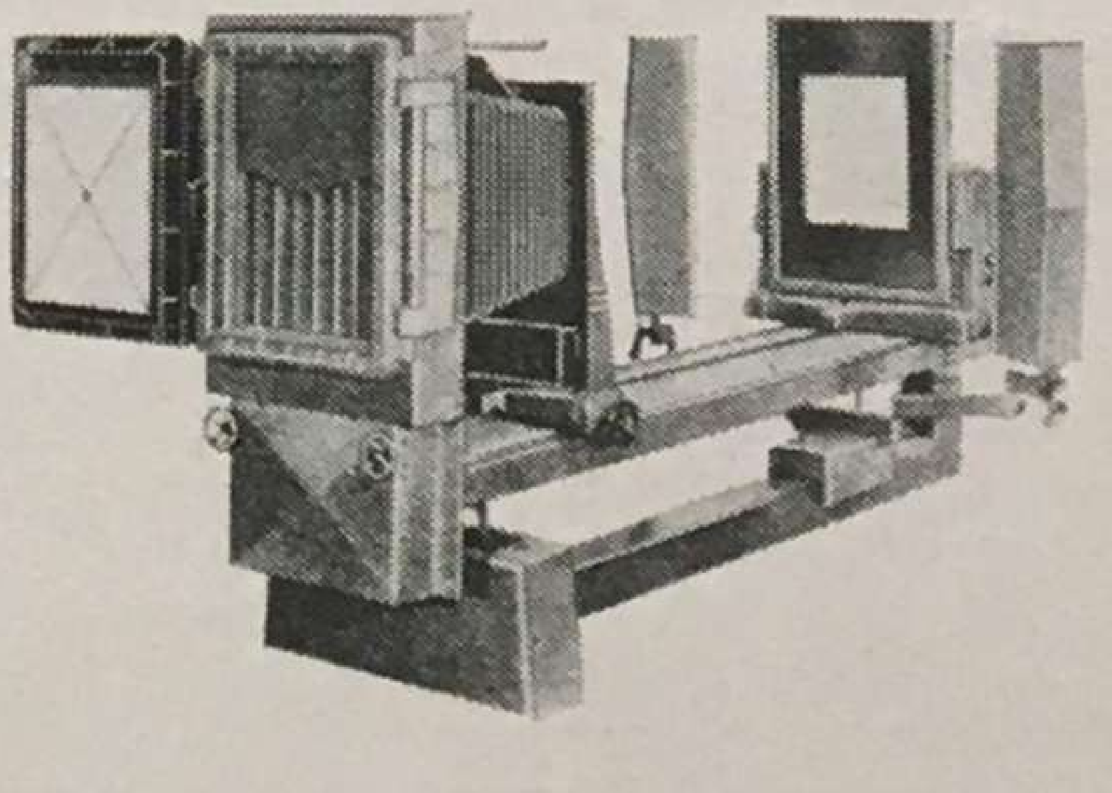
GRAPHIC REPRODUCTION

large process cameras

BROWN ADMIRAL CAMERAS, 31" and 41", have bi-rail track with precision guide surfaces to eliminate side-sway in lens carrier and copyboard; ground glass and positive lock and scale calibration settings to .001-inch. Screen separation micro dial also calibrated in thousandths. Many accessories are available, including vacuum filmholder in cast aluminum swing frames, film size selector valve on inside of above, re-register system with micrometer head, special color kit sets and adapters. Stainless steel cable drive. Base price: 24", **$3350;** 31", **$4000;** 41", **$5495**

BROWN ADMIRAL OVERHEAD CAMERAS, 31x31 and 41x41 are designed for precision process color separation and/or continuous black & white production. Features include motorized vertical and horizontal lensboard movements, massive frame with storage compartments, cable drive. Overhead darkroom light source provides both white and red safe-light illumination. Base prices, with stainless steel cable drive: 24", **$4200;** 31", **$4850;** 41", **$7380.**

BROWN COMMODORE CAMERAS, 31", 24" and 18x22", latter sold as a package consisting of camera, Goerz 16½" Red Dot Artar, Vacuum film holder with film size selector valve including pump and motor unit, blue fluorescent lights in reflectors, lamp carriers, ground glass, percentage scaling system, calculator, manual diaphragm control, automatic shutter and timer control. Including crating, **$2,450.** 24" Commodore recommended package as above, but with lamps, lamp carriers, shutter, and timer as optional accessories, **$3,350.** Package similar to above, with Commodore 31" base camera, **$4,250**

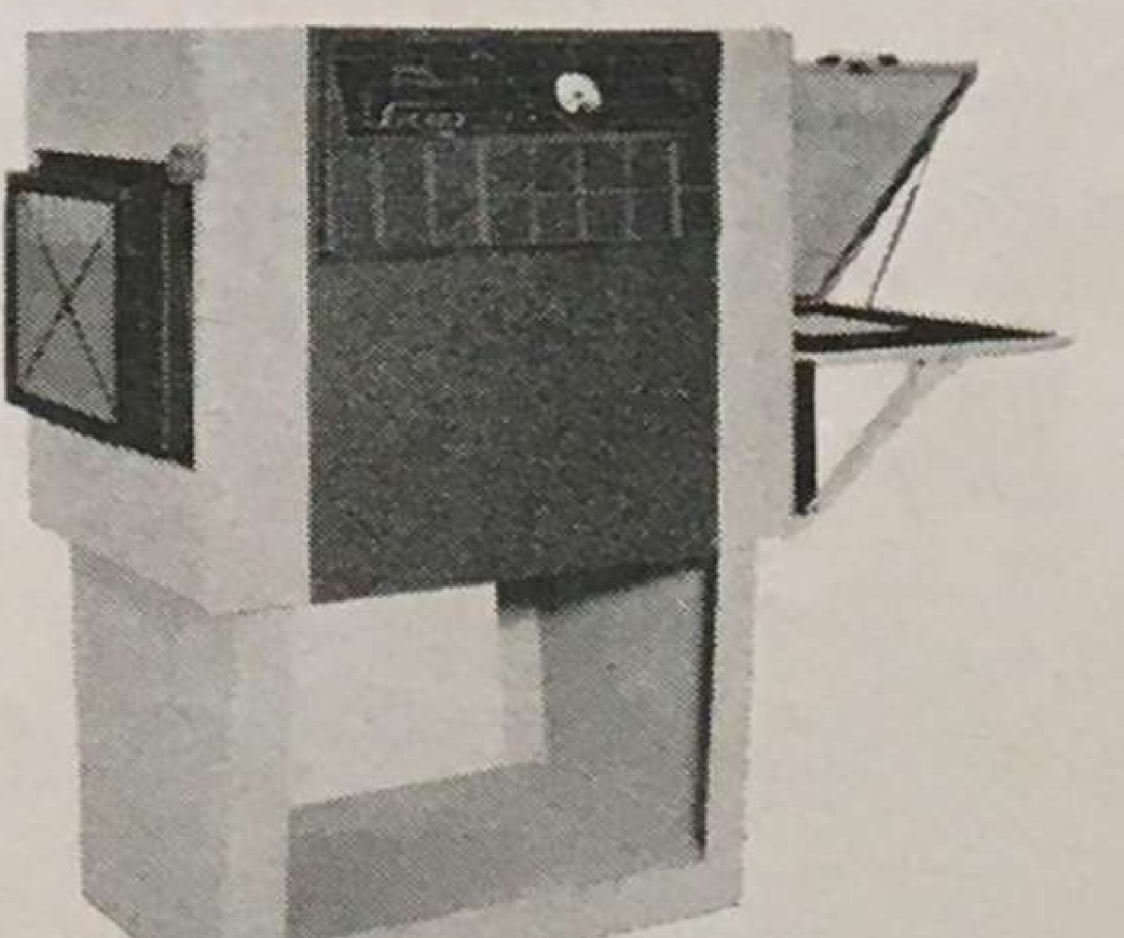


ROBERTSON COMET is a heavy-duty, low-bed precision camera of great speed, accuracy and expandability. Rugged construction. Camera track is a 14' bi-rail with one-piece tube center support, mounted on floating rubber suspension. Manual cable drive with both gallery and darkroom controls, electric screw drive with darkroom counters and precision vernier dials. Ground glass mounted in cast-metal swinging door. Glass screen mechanism with screen compensator, accepts rectangular and circular screen plus holder. Conical bellows; glass-covered copyboard; electric lensboard movement both vertically and horizontally with darkroom controls. 3 models and styles available. **24":** Takes film to 20x24", 30x40" copyboard, 2x enlargements and 5x reductions. **CABLE DRIVE, $3.495. SCREW DRIVE $4,695; DUAL-DRIVE, $5,145. 31":** Takes film to 26x32", 34x44" copyboard, 2x enlargements and 4½x reductions. **CABLE DRIVE, $4,295; SCREW DRIVE, $5,595; DUAL-DRIVE, $6,045. 36":** Takes film to 28x36", 40x48" copyboard, 2x enlargements and 4x reductions. **CABLE DRIVE, $7,100; SCREW DRIVE, $8,700; DUAL-DRIVE, $9,285**

ROBERTSON "481" CAMERA is a completely new camera incorporating features to meet the demand for an efficient, economical, compact low-bed B&W camera with the film and screen capacity to permit contact color separations, up to and including 16x20". Exclusive new "Select-A-Zone" vacuum control valve permits operator to release a contact screen while the film is tightly held by vacuum. One piece structural steel 16'4" track for rock-steady operation. Vacuum back handles film to 28x28". Circular glass screen capacity is 31½" and the full 28x28" film area can be covered with a rectangular glass screen. 34x44" tilting copyboard has spring-loaded pressure insert for copy up to 1" thick. 3x enlargements and 7x reductions with standard 19" lens. 75" bellows extension. 25 ½x33 ½" transparency opening. Manual cable drive, gallery and darkroom controlled. Base camera price, **$2,540**

small process & vertical cameras

BROWN ESCORT is an all-metal horizontal camera designed for practical operating perfection. Convenient waist-level copyboard. Simple, easy-to-use eye level controls. Automatic diaphragm control eliminates human exposure error, assuring quality linework, solids and half tones. Equipped with 9½" coated, color-corrected lens; auto-focus one-dial calibration working in conjunction with the automatic diaphragm to give 2x enlargements or reductions. 19x23" glass covered copyboard; pressure back holds film up to 11x14"; lighting contained within cabinet. 120-second reset timer; camera may be ordered with Stayflat back or Ektalith adapter back in place of pressure back. 110V60C, **$1,095. VACUUM FILM HOLDER** w/pump and motor unit, **$200. XEROGRAPHY** back, 8½x13", **$100. CUT FILM** adapter backs, 4x5", **$52;** 5x7", **$55;** 8x10", **$60. STAYFLAT** back, **$50. EKTALITH** back, **$50**



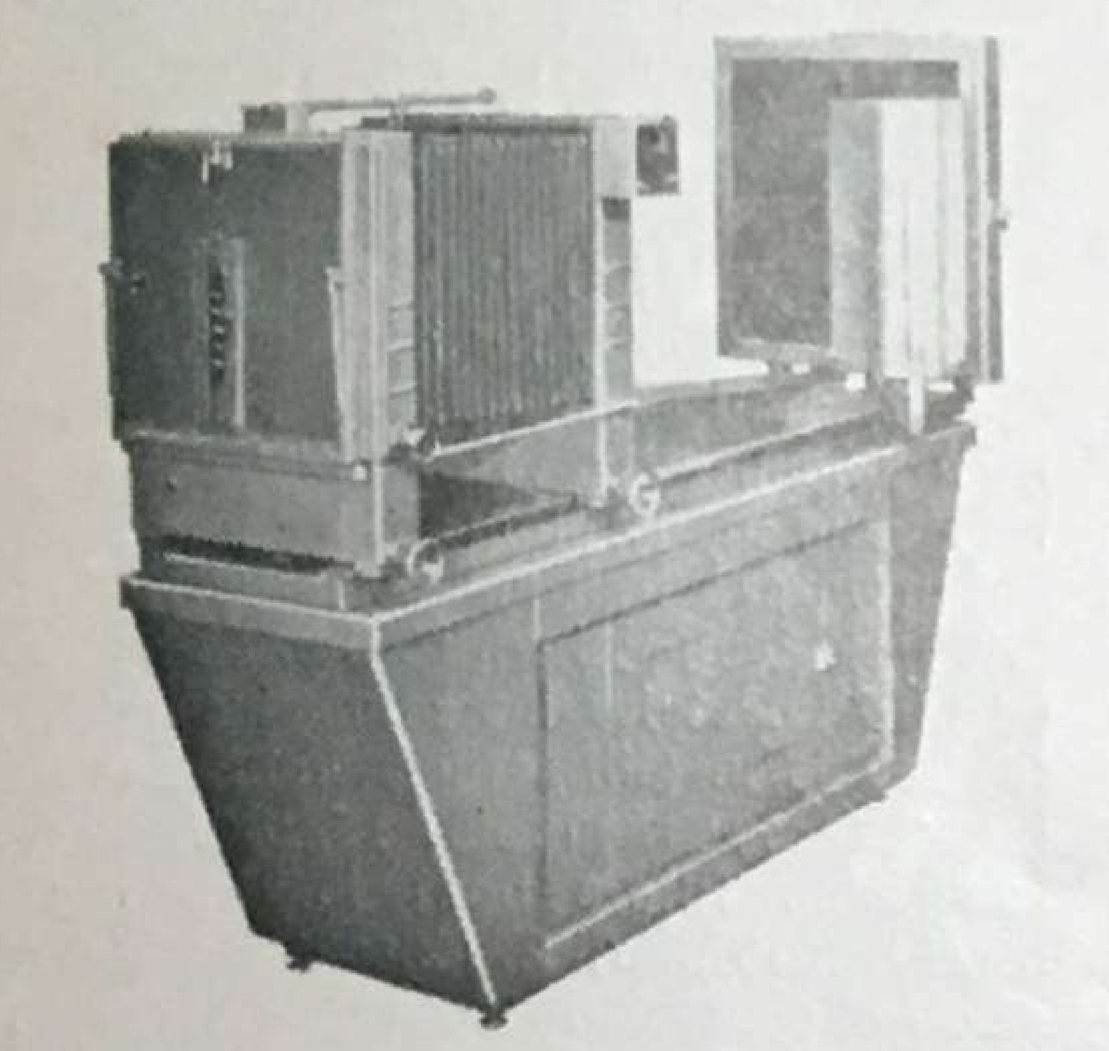
BROWN ENSIGN AUTO FOCUS VERTICAL CAMERA holds film sizes up to 12x15. Automatic operation includes provision for simply dialing reproduction size; auto-focus operation does the rest. For visual focusing or viewing copy, both lensboard and rear case are provided with manual controls. Standard features include 9½" Goerz Red Dot Artar, lamp carriers, 19x23" glass covered copyboard, pressure back to hold film, calculator for precise reductions and enlargements, electric shutter and timer with reset device. Rugged all-metal construction. Including Crating, **$1295.** Optional accessories include Vacuum Film Holder, Cut Film Adapter Backs, Xerography adapter.

BURKE & JAMES 8x10" COPY CAMERA will produce smaller negative required in plate making, silk-screen process, printed circuits and other advance techniques. Camera size is adequate for most 8½x11" jobs because unused margin of finished copy permits 8x10" film usage. Supplements larger equipment and facilities for minimum investment. 8x10" camera (29" double extension), 9½" process type lens in shutter, rail guides and sheet film holder supplied as outfit. Camera can be used for copying by mounting it on table or bench with guides. No. 704M, **$249.50. BURKE & JAMES 11x14" COPY CAMERA** is designed for plate-making negatives for Davidson and Multilith Press-Silk Screen work. Simplified camera setup for the small shop making occasional negatives or copies. 11x14" camera with long bellows (approx. 38"), 12" copy lens in shutter, table rails and film holder. Economy setup permits using camera on table with rails to keep it in line with copyboard on wall. Smaller negatives produced with accessory reducing back, holder, etc. Reduction and same size negatives quickly made. Complete with lens and one film holder. No. 703M, **$495**

BURKE & JAMES PRINCETON CAMERA is designed to meet varied needs of institutions, laboratories, etc. for 11x14" camera with copyboard. Camera unit is self-contained and has ample storage capacity for accessories. 5x magnifcation to 5x reductions on 11x14" film. Mounted on a steel cabinet base. Occupies only 3x8' floor space. **LENS:** normally 10½" focal length process type but can be supplied with a wide range of lenses. 24x24" copyboard is stationary, may be replaced by ground glass. Accepts standard 11x14", 8x10", 5x7", 4x5" film holders; also takes lantern slide holders. Can be used in horizontal or vertical positions. Front and rear carriages slide forward or backward, horizontally or vertically, independently of each other. Lens is movable over entire lensboard area and is controlled from back of camera for centering copy on film. Camera rides on double tubular steel track. Basic model, less lens, with stand, 11x14" back and pressure copy frame, **$995.** Working combination, including 13" process lens, 11x14" and 8x10" backs, 6 each 11x14" and 8x10" holders and adjustable copy light, **$1495.** Reducing backs, each **$49.50.** Copy light, **$150**

CLYDESDALE 12x15" PROCESS CAMERA is designed for use with camera speed paper negative for reducing or enlarging. Makes metal or paper offset plates by the Kodak Ektalith method or with Gevacopy Offset Plates. Ideal for use with Multilith Nos. 750 and 1250; Davidson 10x16, A. B. Dick No. 350, and all other machines using press plates up to 12x15". Enlarges to 3X; 4+ reduction. Occupies a floor space of only 20x72". Basic price of the camera is **$339** (domestic crating **$24**). Accessories are optional, include 10½"

Wollensak coated process lens and percentage scaling, **$234;** Manual lens diaphragm control, **$50;** Electric timer, 3-min. type reset and electric shutter, **$67.** Camera lamps, reflectors and brackets, incl. four No. 2 Photofloods, **$67;** Contactor to operate lights, **$25;** Stayflat back assembly, **$50;** Vacuum back assembly complete with pump and motor, **$147;** DeLuxe cabinet stand, **$143;** Combination open face copyboard and glass covered copyboard, **$225;** Transparency opening in copyboard 12x15″, **$15;** Xerography adapter back for 8½x13″, **$52;** Reducing back (intermediate frame) for of cut film adapters, **$21;** Cut film adapters: 4x5, **$35;** 5x7″, **$35;** 8x10″, **$40;** 11x14″, **$40;** Eastman Ektalith adapter, **$62**



CLYDESDALE 17x17″ PROCESS CAMERA offers 2X enlargement; 5X reduction; 8′ track assembly; 21x25″ Glass covered, tilting copyboard; ground glass and frame (swing-up type); 12x15″ transparency opening in copyboard; 45″ bellows extension. **$545**

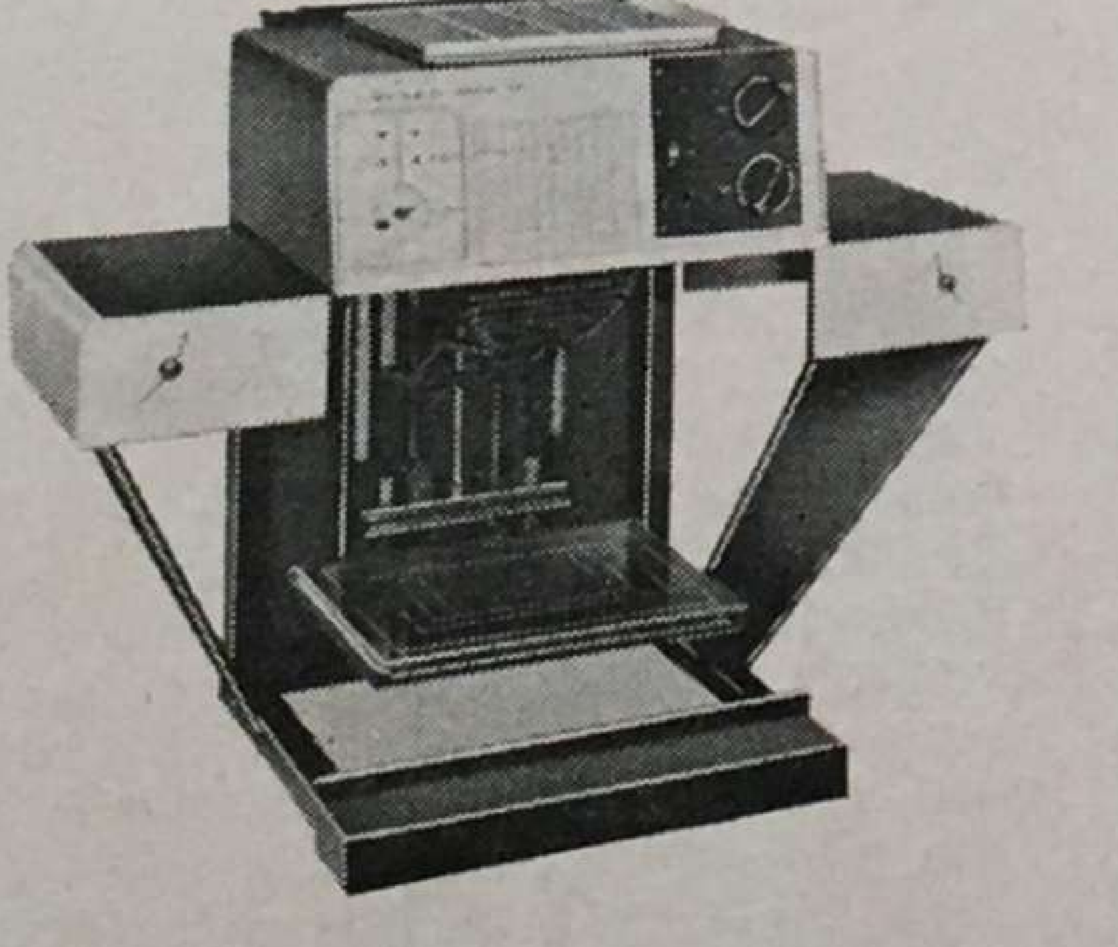
DEARDORFF PRECISION ENLARGING, REDUCING AND COPYING CAMERAS 14x14″ and 17x17″ are ideal for black and white photography, color separations and transparencies. Made of Central American Mahogany in three separate square sections: Front; contains rising, falling and horizontal shifting lens board frames; Center; has door for lens board frame when making reductions or transparencies; Back, has spring actuated glass back. Extra large, square bellows made in two 36″ sections of heavy, reinforced, waterproof material. Four models available, from hand operated by focusing wheels to complete rod and gear operation of all movements, 14x14″, **$678.00** to **$1165.00;** 17x17″, **$746.00** to **$1274.00.** Full line of accessories available, including Precision copy stands 10′ to 15′ long, **$515.00** to **$605.00**

GOODKIN VERTICAL 18″ TRANSFERMATE was specifically designed for exacting first-step needs of Ektalith, Gevacopy and other matrix-transfer processes, yet produces line and halftone negatives with any litho film. Camera's top surface and recessed shelf holds both the Ektalith Loader-Processor Unit and Copy Unit. Cabinet for film and chemical storage. Cabinet and copyboard access is provided by rollaside doors. Full 18x24″ copyboard has hinged cover glass for bulky copy. Copyboard mat is lined yellow on white on one side for Ektalith and Gevacopy, and black on white on reverse side for regular litho work. Lines are drawn in ½″ increments. Four new gimbel-type, swivel-base sockets permit the four 300W reflector floods to be rotated 360°. When copyboard access door is closed, pilot-light shows if lamps are on. Lamps have 2000 hour life expectancy. **GOODKIN** Wide Angle f/6.8 lens stops down to f/45 enlarges or reduces 2x. Auto reset push-button timer has built in 30 amp overload relay. Micro-calibrated focus system, **$1,497.** (Shipping and crating extra). Full line of accessories includes Xerographic & Prismatic heads, vacuum back and special lenses.

GOODKIN VERTICAL 24″ CAMERA exposes full 18x23″ negatives, comes complete with powerful vacuum back, pump and motor. Uses 4-2000 hour 300w lamps adjustable to 360°. Goerz f/6.8 lens covers full size w/o distortion, enlarges or reduces 2 1/3x. Has auto reset timer, 18x24″ glass covered copyboard that automatically adjusts for thick copy and direct gear drive focus. Accessory Xerographic, Ektalith and Prismatic heads available, **$1,698**

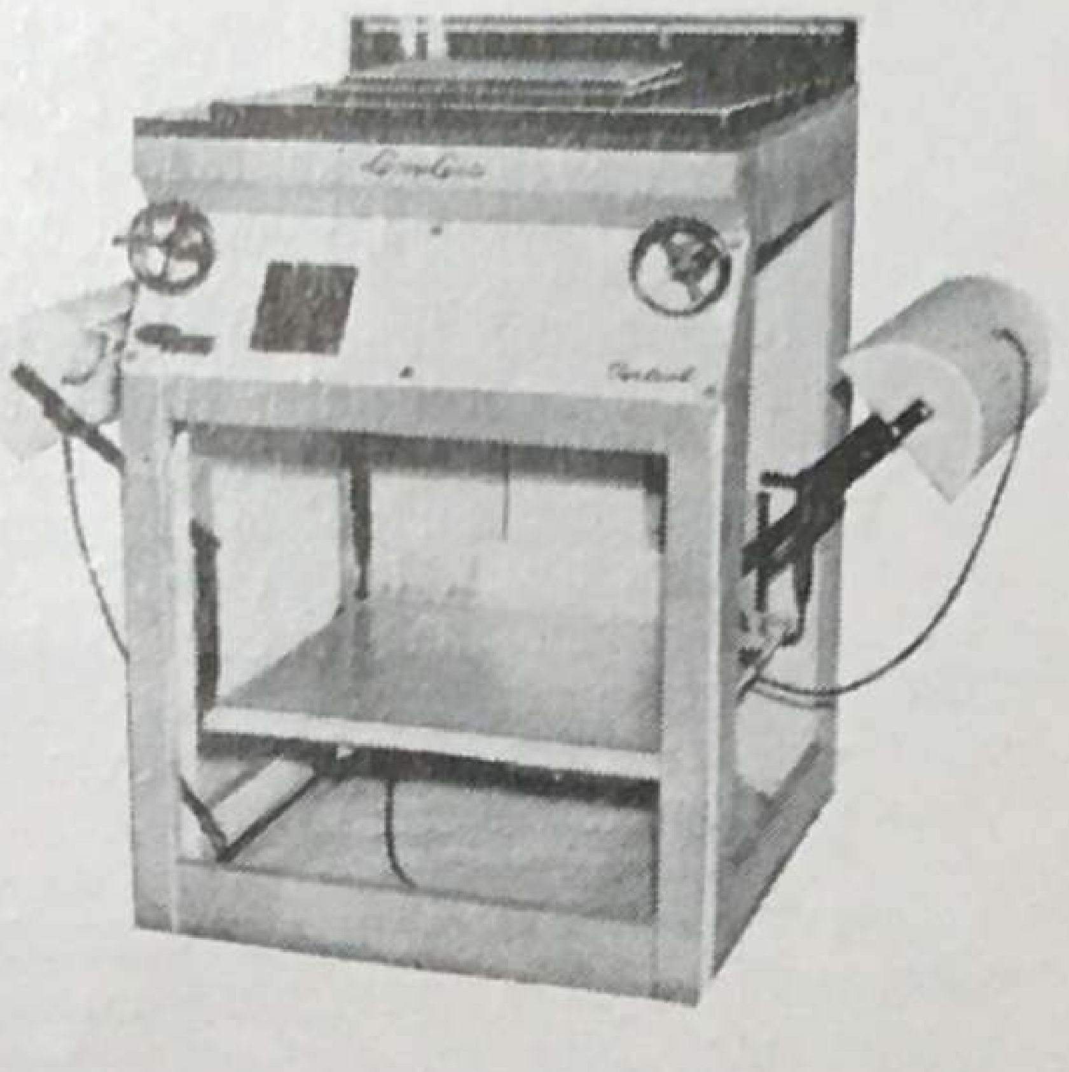
GOODKIN VERTICAL "SS" CAMERA is a new unique same-size camera specifically designed for the Ektalith and Gevacopy processes. Compact, 43x27x15″, and portable, 30 lbs., it fits average desk or table. Also makes same-size line and halftone negatives up to 11x14″. Copyboard has hinged cover glass to accommodate copy up to book thickness, rubber cushion and 2 copy line-up matts. Full 12x16″ copy area. Spring-driven timer has stop pin for re-setting same duration exposures. Special wide-angle f/12.5 lens permits 7 second Ektalith exposure. Four 300W photo floods provide balanced lighting. No accessory equipment needed for Ektalith. Uses 110 VAC. Made of 20 gauge, cold-rolled, butt-welded steel, **$345.** Gevacopy and Litho Accessory pressure back and focus plate glass, **$30;** Accessory film holder, permits day or room light use, **$75**

KENRO VERTICAL CAMERAS are designed to fill the needs of graphic arts and office duplication operations. Available in three sizes, 14″, 18″ (illust.) and 24″, these precision cameras offer high performance with ease of operation. All have spring-loaded copyboards and relay-equipped, automatic, reset timers. Have very wide applications including line and halftone negatives for plate-making and, with adapter backs, for Ektalith, Gevacopy and Xerographic masters. Excellent copy cameras. Large counter numbers, micro-numerical size and focus system. Come with adjustable iris, Goerz Dagor, color-corrected lenses. **VERTICAL 18** comes in two models, shoots 8½x11″ two-up, covers 11x17″ bleed spreads. Makes 3x enlargements or reductions. **MODEL V184** uses 300w reflector flood lamps. **MODEL V185** uses 4 new G.E. Quartzline lamps coupled with a ColorTran converter. This lighting system assures proper and uniform negative exposure by providing high intensity even illumination. These lamps maintain constant brilliance throughout their life. **MODEL V184, $1,275; MODEL V185, $1,500. VERTICAL 14 MODEL V141** w/Quartzline lights and ColorTran Converter. 2x enlargements and 3x reductions, **$1,375. VERTICAL 24 MODEL V240** has twice the film size capacity of the "Vertical 18", shoots 8½x11″ 4 up, 2x enlargements or reductions, w/Quartzline lights & ColorTran converter, **$1,800.** Accessories include: Gevacopy Vacuum adapter for all sizes, **$210;** stayflat back or adapters for Ektalith or Xerography, "14"&"18", **$100;** "24", **$145;** vacuum back and pump, "14", **$140;** "18", **$160;** "24", **$175;** "18" prismatic head w/auxiliary lens, **$435.** Other lenses and accessory prices on request.



LACEY-LUCI IMPERIAL FLAT BED CAMERA gives big camera performance at low cost. Makes negatives up to 14x18″. All hand controls within reach, easy to see calibrated readings, 3¼x enl. or reduction, auto. timer, removable 17x22″ film holder, 24x24″ copyboard. With 8¼″ lens. **$995**

LACEY-LUCI ROYAL VERTICAL CAMERA makes line negatives, halftone negatives, veloxes, photo copies, silk screen negatives and positives, etc. In addition to all the above functions it will serve as a copy visualizer. Enlarging or reducing 4x, the ROYAL occupies only 21x29″ of floor space. Working area; 18½x24½″, ht., 43″ permits easy, standing operation. All metal construction. Adjustable PS-25-500W copyboard lights, all controls on front for easy operation. Copyboard 18x24″; Ektalith adapter available. For Gevaert or Ektalith copy, 14″, **$748;** 18″, **$824**



LACEY-LUCI ROYAL UPRIGHT ART AID AND CAMERA is used for making line and halftone negatives, silk screen negatives and positives, photo copies, veloxes, etc. 18x24″ copyboard working area. Occupies only 27x29″ floor space. 43″ height permits easy operation while standing. Four element 6⅜″ Wollensak lens permits 4x enlargements or reductions. Ektalith adapters available, **$569.** For Gevaert or Ektalith copy, 14″, **$748;** 18″, **$824**

LACEY-LUCI PROCESS CAMERAS are available in many sizes and styles. **"FOURTEEN"** series has: 18x24″ focal plate; 21½x21½″ tilting copyboard; automatic timer; tape calibration system; ground and clear glass; 500W 3200°K lamps; will enlarge or reduce 2½x. With 8¼″ process lens, **MODEL J,** angle iron base, **$695; MODEL H,** welded steel base, **$798; MAJESTIC "14",** heavier construction, 4¾x enlargement or reduction, with 17x22″ film holder, **$875**

LACEY-LUCI JUNIOR PROCESS CAMERA has 18x24″ focal plate, 24x24″ sponge rubber copyboard w/¼″ hinged glass copy holder, 4 adjustable 500W lamps, auto. timer, stayflat and clear glass, pressure back and 4x enl. or reduction. All metal construction. With 8¼″ process lens, **$950. SENIOR AND SUPER SENIOR PROCESS CAMERAS** are similar to above but have 30x30″ copyboards, 24x24″ focal plate, one ground and two clear glasses, will accept film up to 24x24″. **SENIOR MODEL,** will accept 9½ or 15″ process lens, w/o lens, **$975; SUPER SENIOR MODEL,** will accept 19″ lens, w/o lens, **$1,075.** 9½ or 15″ lens, **$160;** 19″ lens, **$294.80**

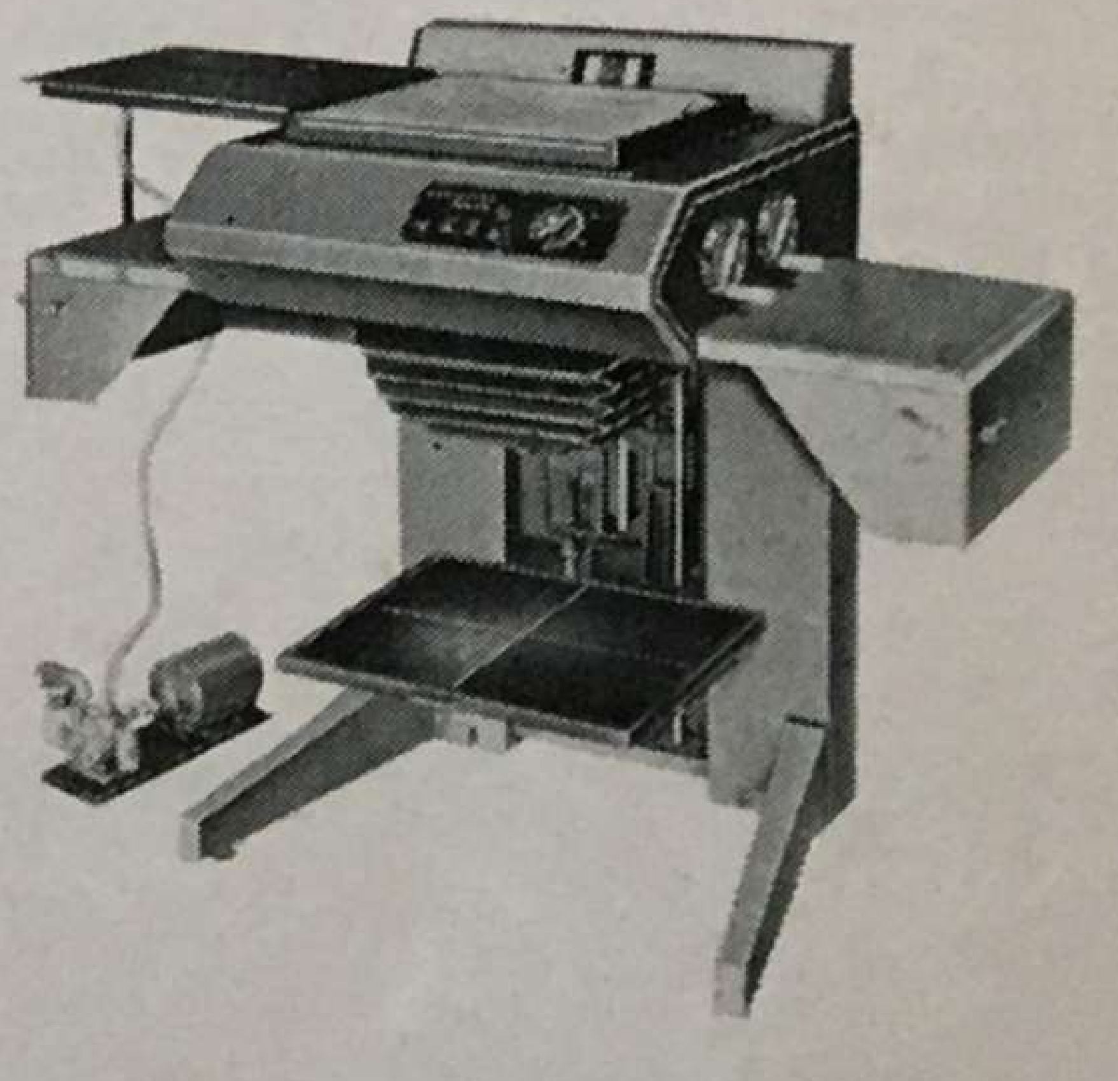
LACEY-LUCI VERTICAL CAMERAS are of sturdy metal construction with formica top and panels. Front sliding cabinet doors; auto. reset timer; accurate calibration system. Made in 14, 18, & 24″ negative sizes, they are complete with Wollensak process lens and choice of pressure back or Ektalith head. 14″, **$1,070;** 18″, **$1,280;** 24″, **$1,480**

LACEY-LUCI ACCESSORIES include: **STAT-O-DAPTER** for reverse images, **$65; PRESSURE BACK, $63;** w/film holder, **$68; EKTALITH HEAD, $40**

MILLER-TROJAN MODEL DC PROCESS CAMERAS are all metal three sizes take film up to 11x14, 16x20, and 24x24 respectively. Instrument panel at rear of camera permits operation of all controls from darkroom. Brass front case and copy board focusing tapes hand calibrated in direct percentages. Chain and cable focusing assembly for 2X enlargement or 5X reduction. Tubular steel copy board glass-covered pressure type with foam rubber blanket. Camera is completely wired ready for attachment. DC-1114, **$1403.25;** DC-1620, **$1808.65;** DC-2424, **$2327.25**

MILLER-TROJAN SHARPSHOOTER CAMERA with metal base occupies just 40x72-in. of floor space. Includes automatic reset timer, focusing back, 11x14 film holder, 10¼-in. Wollensak Raptar lens, stainless steel focusing tapes, four 300 watt exposing lamps on hinged arms, black leather bellows. Standard copy board 18x22½-in, pressure type with foam rubber blanket. Camera only, **$810.90,** base only, **$58.00**

ROBERTSON METEORITE offers big camera capacity in a small floor space. Designed for trouble-free service, it has simple controls and direct reading focusing scales that are synchronized to copyboard and lens movement and instantly indicate percentage of enlargement or reduction. Copy loads easily on the 18x23″ direct-access, hinged glass lid copyboard. Accepts all standard film sizes, including a 15x18″ contact screen, from 4x5″ to 14x17″ or 12x18″. Operation is fast, easy and precise, with interchangeable holders and adapters permitting use on any job, even right reading "stats." Adjustable incandescent lighting. 65″ wide, 53″ high and 31″ deep, the **METEORITE** is available in 4 complete models, all with Goerz 8¼″ f/6.8 lens. With **STAY FLAT** holder, **$1,335;** with **EKTALITH ADAPTER, $1,485;** with **XEROGRAPHY ADAPTER, $1,385;** with **VACUUM HOLDER,** pump & motor unit, **$1,475.** All models accept above holders or adapters as accessories. Prismatic "STAT" head available for all models.



ROBERTSON 320 is an ideal camera for the small shop or as a second camera for the larger shop. All-metal construction makes it rigid and accurate. Scale Focusing eliminates need for visual focusing. Vacuum film holder is marked and zoned with film and contact screen sizes from 4x5″ to 16x20″. Electric timer and control panel; conical bellows, movable lens board; components firmly mounted on sturdy 10′ metal tube track with guide rails top and bottom; supported three-point floating

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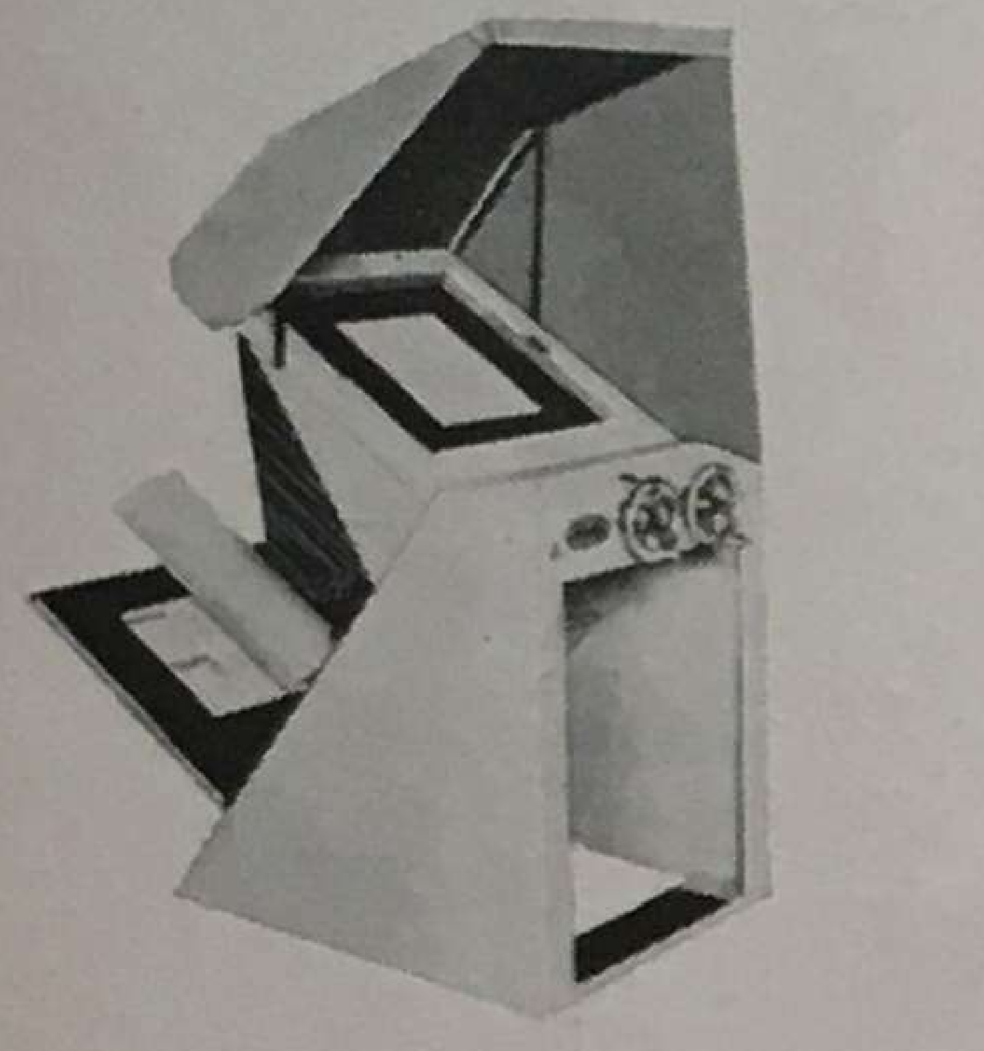
rubber suspension mounts to provide vibration-free operation; 21x25″ glass-covered tilting and rotating copyboard accommodates opaque copy up to 1″ thick, two 1500W lamps in specially designed reflectors mounted on arms attached to copyboard carriage. 2x enlargements and 5x reductions. With **VACUUM HOLDER** or **XEROGRAPHY ADAPTER, $2,020;** with **VACUUM HOLDER** and Special Lamp Carriers (no lamps), **$2,045**

ROBERTSON LENSBOARDS for Robertson Meteorite and 320 cameras, **$15;** for 481, **$25;** for Comet, **$50. LENS CONE** for internal or external mounting (specify), **$100**

visualizers

LACEY-LUCI COPY VISUALIZERS project copy, transparencies, small and large objects in correct proportions for copying by hand or on film. Used for layouts, scaling, proportions, comprehensives and distortion correcting. Can be used, with accessories, for making halftones, burning in plates and for silk screen work. **CROMWELL ANGLE VISUALIZER** (illust.), is small, compact unit that can be used next to a desk. 21x37″ floor space, 20x20″ copy board w/14x16″ viewing area, 4″ Wollensak lens gives 4x enl. or reduction. All steel, **$279.** Other models, with 6⅜″ lens, in both angle and upright styles, copyboards up to 24x24″, **MODEL J, $485; ROYAL, $539; MODEL H, $565; MAJESTIC, $645; CORONET DESK TOP MODEL** w/3″ lens, 10x12″ working area, **$177**



color separation

BYCHROME SCREEN TINTS come in 133 and 150 line ruling with 6 values (A thru F) on 20x24″ regular base acetate film. Individually packed in 3x 20½″ tubes, ea., **$10;** 6 for **$52.50;** 12 for **$95. BYCHROME COMMERCIAL TINTS** for commercial lithography come in 133 and 150 line ruling on 20x24″ regular base film with 6 negative values (A thru F) for surface plate making and 6 positive values (Ade thru Fde) for deep etch plate making. Individually packed in tubes, ea., **$5.85**

CURTIS COLOR ANALYST 11x14 enables operator to view 3 color-separated black-and-white prints made from color-separation negatives in full color. Eliminates need for dye transfer or carbro color prints as proofs or copy for engraver, **$1975.** Combination Model, for use with either reflection copy or diapositives, **$2800**

K & M FILTERMATIC MODEL A changes up to 7 filters at touch of a button, eliminates climbing to change filters. Point source light is ideal for: transparency color separations; Ektachrome or Ektacolor direct screen work or black & white contact printing. Adjustable intensity three position switch on transformer makes easy and positive charges of 8, 16, or 20 volts and intensity ratios of 1, 15, or 37. **MODEL A, $150; MODEL B,** Filtermatic changer only, to adapt K & M Tri-Level Point Source light unit, **$110**

K & M FILTER CABINET gives an efficient and practical storage for filters. Holds 20 3-inch gelatin filters in filter frames. Solid hard maple attractively finished in dull black lacquer. 24 identity dots for marking filter frames included. Complete with 3-inch gelatin filter frame, **$12.50**

K & M PROCESS LENS SHADE WITH FILTER HOLDER reduces the flare problem from 20 to 35% depending on conditions, thus making camera masking in color separation more efficient. Built-in filter holder allows operator to use standard 3″ sq. gelatin filters in filter frames or glass filters. Constructed of aluminum, outside is anodized in matte black. Inside has black suede-like finish, non-reflective. Dimensions of shade are 6″ deep and 6¾″ square; fit lens barrels from 2 to 3¼″ diameter. **$27.50**

K & M TRANSPARENT MULTIPLE COLOR SWATCHES are a valuable aid in determining color cut-out of separation negatives, effectiveness of corrective masks, and identification of separation negatives. ¾x5″ in size, with 9 color-blocks; packaged in sets of 5. Five guides in each set are uniform in color; coded correspondingly. Per set, **$9.50**

K & M TRI-LEVEL POINT SOURCE LIGHT UNIT makes color separation from transparencies, black-and-white contact prints, and does direct screen work from Ektachrome or Ektacolor. Small filament contour map lamp holds finest detail. Built-in filter holder. Three position switch on transformer for adjustable intensity. **$49.50**

SHORT RUN COLOR SEPARATION CAMERA, designed primarily for producing direct screened separations from color transparencies, is adapted to the Kodak 3-color process—the fastest and most economical means of color separations and reproductions. Precision built and ruggedly constructed, all moving parts are perfectly balanced for easy operation. Air-cooled point light source automatically positions as lens plane moves. Takes all transparencies from 35mm to 4x5″. Maximum printing area, 9x13″ (Accessory vacuum board prints up to 17x22″). Other unique features include: one condenser set for any size lens or transparency, easy focus, built-in control units and timers that assure constant light and consistent value, tilting vacuum holder, dual lens assembly, filters in enclosed turret behind lens, no hand registering in the 3-color system. 72″ long, 50″ high and 20″ deep, **MODEL 6;** shipped fully assembled and ready for operation, **$4,400**

frames, pumps & platemakers

ANDERSON STEP AND REPEAT MACHINES are designed for accurate step and repeat photocomposing on photographic film or other types of light sensitive emulsions on different surfaces. Original film image (negative or positive) is repeated on larger sheet of film or direct to plate by multiple exposure method. Steps are in a perfect straight line. Absolute color register is guaranteed. Several models available to 47¼x59″, with or without coordinated register table. From **$760** to **$3450**

BAR-PLATE PRINTING FRAMES are available in several models. Micro Automaton Elevating Vacuum Printing Frame is made in all sizes from 30x40″ to 60x90″ and larger. Elevating frames come complete with pump vacuum gauge, automatic vacuum control and reservoir tank for 115 volts AC. reservoir tank for 115 volts AC. **$2150 to $4000.** Micro-Perfect Vacuum Printing Frame is made in 13 sizes, from 16x20″ to 50x70″, **$315 to$975.** Bench Model Micro-Perfect Vacuum Printing Frame is made in 7 sizes, 16x20″ to 33x43″, **$205 to $375**

BELL & GOSSETT VACUUM PUMPS are compact and designed for continuous operation at a Maximum Vacuum of 27.5″ referred to 30″ barometer. High volume, dry types, they displace from 2.7 to 6.57 C.F.M. Complete with: integral pulsation chamber, 8′ cord & plug, ¼″IPS intake conduit connection, carry handle. **MODEL SYC 21-1;** 1 cylinder, ¼ H.P. mtr., 2.7 C.F.M., 33 lbs., **$63.75; MODEL SYC 18-1,** 2 cyl., ¼ H.P., 4.57 C.F.M., 35 lbs., **$82; MODEL SYC 19-1, 2** cyl., 1/3 H.P., 5.4 C.F.M., 42 lbs., **$91; MODEL SYC 20-1,** 2 cyl., ½ H.P., 6.57 C.F.M., 44 lbs., **$127**

BROWN PRINTING FRAMES: Bench model for table-top mounting, comes equipped with vacuum pump, motor, gauge, and vacuum release valve. Large sizes are counter-balanced, smaller have stop brackets. Five sizes, from 16x20″, **$217** (tilt type **$243**) to 28x38″, **$351** (tilt type **$378**)

COLIGHT EXPOSURE FRAMES are constructed of heavy gauge steel and are available in several models. Priced from **$150** to **$387. COLIGHT BENCH MODEL TILTING VACUUM FRAME** is constructed of heavy gauge steel and is available in models with different exposure areas. **$149.50** to **$178.50.** Colight Non-Tilting Vacuum Frame is designed primarily for use with Colight Contact Printing Lamp, is available in models with different exposure areas. **$122.50** to **$152.50**

CONDIT MASK REGISTRATION PRINTER designed for making enlarged separations from small transparencies projected in enlarger. Printer fastens to easel. Register pins on 3″ centers are cemented in hinged glass plate which locks on top of foam rubber pad. Exposure is made through glass from the top. Masks are made the same size as separations, 4x5-5x7, **$72**

CONDIT PRINTING PLATEN designed to eliminate sliding between films positioned on register pins due to uneven pressure of platen. Two pins 1/16″ diameter are cemented in plate glass. Punch number necessary when ordering replacement glass. Platen locks in place over films but foam rubber does not contact films until lever is operated. Platen drops vertically to make contact. Platen pressure is adjustable, mounts on bench top; exposing light must be located inside. 8x10, **$125;** 10x12, **$150**

CURTIS COMMERCIAL PRINTER 10x12, for making contact negatives from film of any size from 2¼x2¼ to 8x10 or in preregistered groups. For rapid production of automatically balanced and color-corrected separation negatives. Built-in filters are balanced for equal exposures. Complete with filters and all accessories, **$1,000**

CURTIS PRECISION OPTICAL PRINTER is designed expressly for ROP color, makes 4x5 balanced color-separation negatives from 35mm, 2¼x2¼ and 2¼x3¼ roll-film color transparencies by projection and from 4x5 transparencies by contact printing. Equipped with 2 lenses mounted in a turret for instantaneous change to provide magnifications from 1x to 6x. Floor space required: 16x18″. Color-separation filters built in. Electronic controls. Printer, 2 lenses, timer and electronic exposure computer for automatic operation, **$1500**

DIACO PRINTER MODEL C is a complete contact printing center with three light sources, vacuum frame, two filter wheels, register punch and light table. DIACO makes contact prints, masks and halftones, also color separations, correction masks and split filter exposures. It will do anything a camera can do except copy opaque materials or change size. Work area, 22x26″. Contains vacuum gauge & pump, vacuum regulating valve, Essarette integrating timer that controls exposures as well as color temperature, 14 Eastman filter frames, 2 N. D. 1.00 Kodak Wratten gelatin filters, Safelight, control panel, tool shelf, auto. filter selector. 50½x36x40″, **$3,250**

DOUTHITT VACUUM PRINTING FRAMES are available in 8 different models. **BENCH TYPES** are small, light, and versatile. Ideal for use with overhead lights. Five sizes from 16x20″ to 30x40″, **$225 to $269. WALL TYPES** attach to wall and fold down out of way when not in use. Five sizes from 16x20 to 30x40″, **$240 to $279. TYPE PD** comes in five sizes from 20x24″ to 30x40″, **$322 to $359. TYPE PDS,** in same sizes as PD but loads glass down and rotates 180°, has register light, casters and bleeder valve, **$385** to **$422. TYPE DN** has fingertip control, Four sizes, 22x28″ to 36x48″, **$360** to **$492. TYPE D** has instantaneous vacuum, Five sizes 22x28″ to 40x50″, **$452** to **$636. TYPE DL** is carefully counter-balanced, has instantaneous vacuum, Six sizes, 40x50″ to 60x80″, **$1,132** to **$1,322. REVOLVING TYPE** has Douthitt gyrotory axis and instantaneous vacuum, six sizes, 40x50″ to 60x80″, **$1,537** to **$1,893**

GAST INTEGRAL VACUUM PUMPS AND MOTORS offer unusual compactness. Lightweight, quiet, efficient. Available in 3 sizes. Prices include cord, plug and vacuum hose connection. **MODEL P2-131,** 1.3 c.f.m., w/combination oiler-filter and exhaust muffler, 1/6 H.P. 115V 60C AC motor; **MODEL P2-132,** same but w/230V motor, either, **$57.50. MODEL P2-221,** 2.2 c.f.m., w/syphon oiler and exhaust muffler, ¼ H.P. 115V 60C AC motor; **MODEL P2-222,** same but w/1/3 H.P. 230V motor, either, **$73.40. MODEL P-382,** 3.8 c.f.m., w/syphon oiler and exhaust muffler, 1/3 H.P. 230V 60C AC motor, **$76.40**

HULEN DULUXE VACUUM FRAME has a built-in Step and Repeat device that permits accurate horizontal and vertical movements of negatives and positives. Has micrometer attachment for horizontal and vertical positioning of negatives or positives. Negative holders turn 90, 180 and 270°. Optional revolving negative holder turns in single degrees for envelope and crooked die layouts. Six sizes, 23x24″ to 54x 76″. **$1,449** to **$4,568**

KEITH HEAVY DUTY PRINT FRAMES are used by lithographers for brownline (Vandyke) proofs, by photographers for copying and sun-proofing. Made of rugged hardwood with extra-heavy springs for firm contact. Hinged back. 8x10″, **$11.50**; 11x14″, **$15**; 14x17″, **$19.50**; 16x20″, **$21.25**; 20x24″, **$31**

KODAK VACUUM REGISTER BOARD holds sheets of Kodak Pan Matrix Film flat by means of registration pins which fit the holes in the Pan Matrix Film. Also used when transferring dyes. Requires a simple water aspirator or vacuum pump to produce the vacuum. 2 sizes available: Small, for prints 5x7″ to 10x12″, **$57**; Large, for prints 11x14″ to 16x20″, **$70**

KODAK REGISTER PRINTING FRAME simplifies mask alignment in color separation work. Accepts an 11x14″ transparency. Permits masking techniques in complete darkness. For film or glass masks, **$42.50**

KODAK CLAMP SET, used with Kodak Register Boards. Holds Vacuum Register Board rigidly during the exposure of matrix films by projection. **$22.50**

KODAK TRANSFER REGISTER BOARD, for registering matrix films or transferring dye images. 2 sizes available: small, for prints 5x7″ to 10x12″, **$45**; large, for prints 11x14″ to 16x20″, **$57**

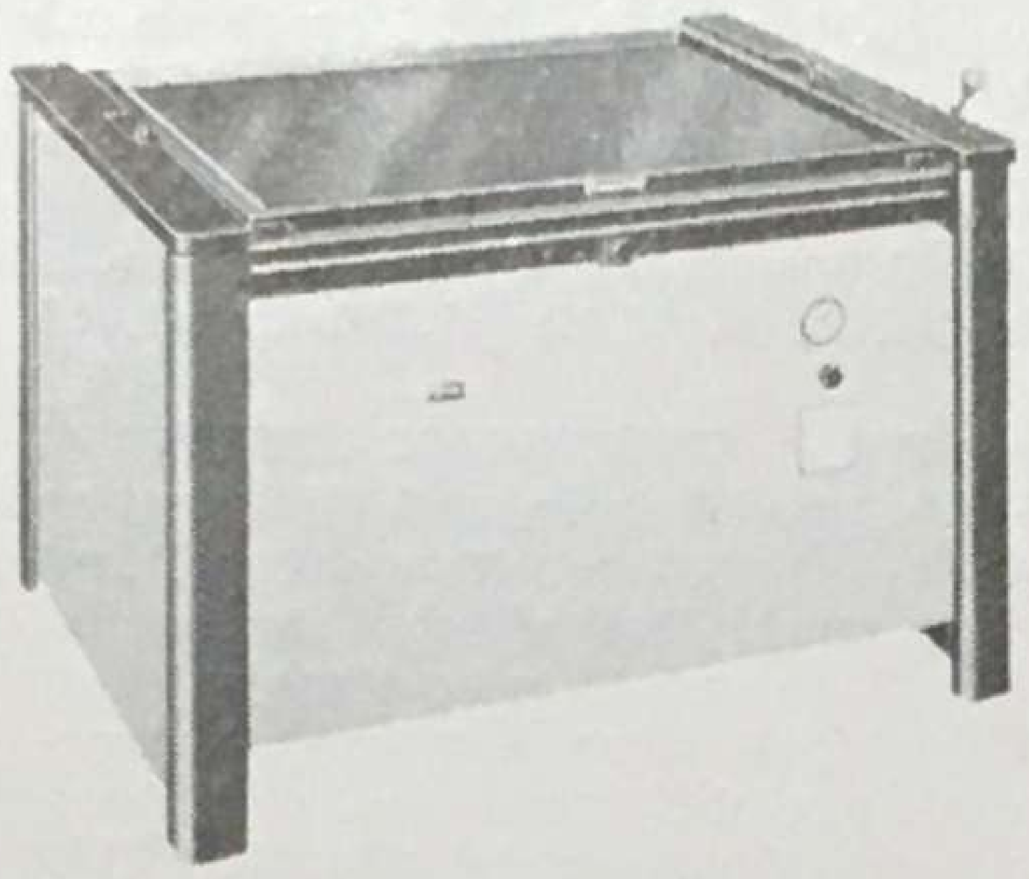
MILLER-TROJAN CONTACT PRINTERS are built in all sizes for all printing applications. UNIVERSAL models have both incandescent and fluorescent illumination, "Setellite" exposure control, rubber vacuum blanket, cam lock, front-mounted transformer for light control, vacuum pump and release valve with gauge, cooling blower, automatic timer. Sizes 38x50-in. to 64x144-in.; larger sizes built to customer's specifications. MODEL FIVP, 38x50″. Illumination by colored fluorescent tubes varying with application. **$1665**

MILLER-TROJAN VACUUM PRINTING FRAMES Standard Model 20-1, plate capacity 22x28-in., **$378.50.** Model 10-1, plate capacity 30x40-in., **$394.** Model 0-1, plate capacity 36x48-in., **$406.35.** Unit includes vacuum pump, motor, vacuum gauge, vacuum control and cord. Model VFH-1116, plate size 11x16-in.,**$128.75;** VFH-1521, plate size 15x21-in., **$146.20;** VFH-2124, plate size 21x24-in., **$174.80.** Complete with vacuum pump, ¼ HP motor, hose, and extension cord. Porto Frame available with or without mounting stand, V-1224 **$145.70;** VS-1224, **$187.40;** V-2024, **$192.40;** VS-1224, **$187.40;** V-2228, **$230.20;** VS-2228, **$276.55.** Model EL elevating type vacuum frame; EL-40 plate capacity 40x60-in., **$1092.80;** EL-50, plate capacity 50x70-in., **$1306.45**

MILLER-TROJAN ROTARY VANE VACUUM PUMPS operate on 110 volts 60 cycle AC. Odd cycle units available. Model 0440 is supplied with or without motor; Red Head comes complete with 1/6 hp motor. Model 0465 is heavy duty model, built for continuous operation of graphic arts equipment. 0440, **$100.75;** 0465, **$123.40;** "Red Head," **$66.50**

MORSE CONTACT PRINTER M-21 will print a normal negative in less than 3 seconds (rated at 2.4 seconds). Provides for simplified vignetting, has cool-burning, high-actinic arc lamps, inflated rubber platen. Accommodates negatives up to 8x10″, paper up to 11x14″. Contact-type push-switch, automatically operated by platen handle, controls entire printing circuit; neon safelight; toggle switches individually controlled 39 argon lamps, subdivided into 4 circuits, each with separate switch to arrange lights in circle or rings for vignetting. Uniform contact over 600-lbs. pressure. Hinged masking frame has 4 stainless steel masking blades, quickly adjustable to all sizes up to 8x10″. Mask held in place by platen lock. All stainless steel. Measures 15½x13½x10″, weighs 60-lbs. Supplied with viewing lamps, neon safe-lights, 2-prong plug for manual operation, AC-DC. **$675**

ROBERTSON PRINTING FRAMES come in two types and 19 models. **FLOOR TYPE,** features: Single control lever for all frame operations; floating hinged glass and frame assembly; double action safety vacuum lock; vacuum control panel; long-wearing vacuum blanket with heavy rubber beading; plus toe space, adjustable feet, acid resist finish and fine styling. Nine models, from 20x24″ to 42x54″, **$326** to **$594; ACCESSORY AUTOMATIC MOTOR CONTROL** automatically maintains vacuum at desired level, **$69.** BENCH TYPE is available either tilting or non-tilting style. Features: Heavy duty pump and motor assembly; floating hinged glass and frame assembly; pull through glass lid, vacuum gauge and control and acid resist finish. 20x24″ to 30x40″, non-tilting, **$229** to **$357**; tilting, **$255** to **$384**



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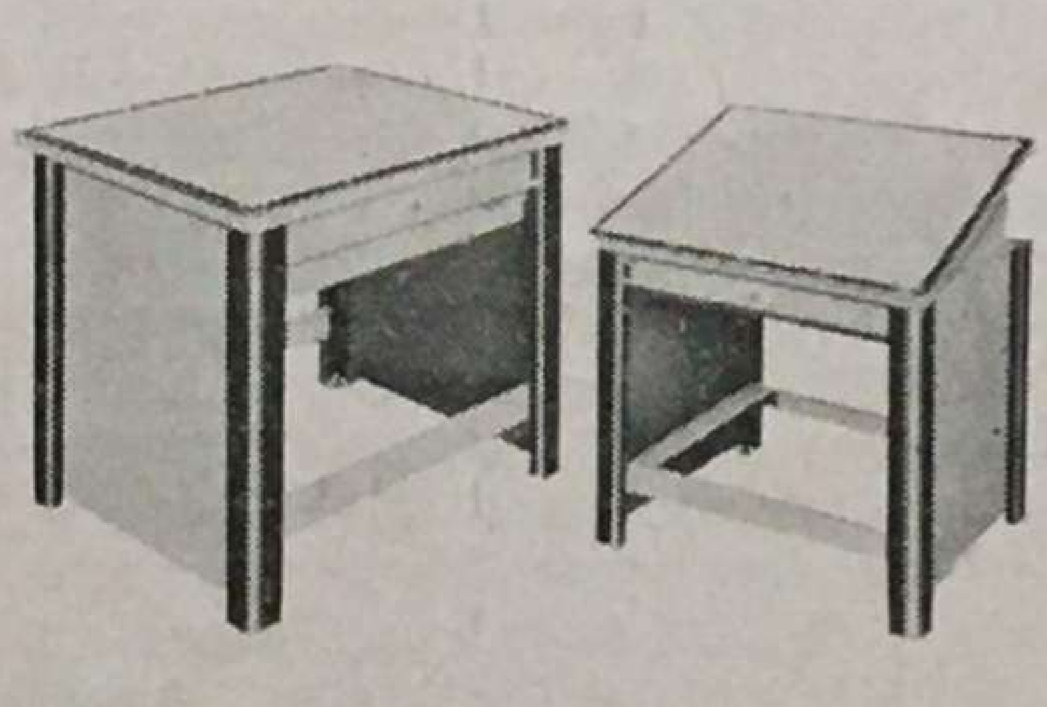
layout & stripping tables

ROBERTSON LAYOUT AND STRIPPING TABLES are available in two styles; tilting or non-tilt top. Clear plate glass, sealed tops are leak proof. Cool, even lighting assembly is easily accessible for tube or starter replacement. Chrome plated straight edges adjustable to ±.015″. Convenient tool tray. Six non-tilt styles, 30x40″ to 50x62″, **$235** to **$410.** Accessories include: **STORAGE SHELF, $42** to **$47; TWO-LEVEL LIGHTING, $11**



BROWN ARTISTS RETOUCH TABLES have even illumination, adjustable tilt, copy shelf arm rest. Opal and clear glass top; fluorescent lighting; cabinet. 20x 24″, **$362**; 26x30″, **$399**; 30x40″ **$491.** Crating extra. **BROWN ADJUSTABLE LAYOUT, OPAQUING AND STRIPPING TABLES:** variable tilt top with opal and clear glass, adjustable steel straight edges, fluorescent lights. 20x24″, **$260**; 30x40″, **$312**; 37x48″, **$374**

BROWN DOT ETCHING TABLES complete with opal and clear glass top, water fittings and controls, 110 volt AC, top tilted 15° 20x24″, **$373**; 26x30″, **$412**; 30x40″, **$490.** Foot valve extra.

BROWN DOWN DRAFT TABLE is equipped with long-lasting, powerful exhaust system which quickly and thoroughly clears plateroom of objectionable fumes. Heavy Koroseal coating on inner and outer surfaces of table protects metal against corrosive action of chemicals. Heavy slate working surface. Blower capacity 5000 CFM. Four sizes, from 31x39″, **$971,** to 60x80″, **$1654**

BROWN NEGATIVE LAYOUT TABLES permit operator to work sitting. Complete with ball-grained glass top, fluorescent lighting, chromed adjustable straight edges; seven sizes from 20x24″ **$184** to 54x78″, **$437**

BROWN UTILITY TABLE for inking up plates, staging, and miscellaneous plateroom functions. Four sizes from 28x36″, **$156** to 58x78″, **$312**

COLIGHT STRIPPING TABLES have precision ground adjustable straight edges with tolerances within .002″. Two calibrated straight edges, 1/32″ graduations, one horizontal and one vertical. Cool working area prevents negative warping. Scientifically spaced white fluorescent lamps give even, over-all diffusion. **MODEL TST#1,** tilting type, 25x19″ work area, **$159.50; MODEL TST#2,** tilting type, 27½x25″ work area, **$215; MODEL 2024,** knock-down type, non-tilt, 24x20″ work area, **$165; MODEL 3045,** as #2024 but 45x 30″ work area, **$199.50; ART MODELS** for table tops, can be used flat or tilted, 3 sizes, 18x16″ to 27½x25″, **$79.50** to **$149.50**

DOUTHITT DEEP ETCH TABLES have "Fibrabon" coated tops that are completely resistant to acid and alkali. Down draft type, 40x48″, 48x60″ & 58x77″, **$844** to **$1,038;** Economy type, 4 sizes, 28x36″ to 60x80″, **$188** to **$451**

DOUTHITT DOT ETCH TABLES have adjustable flushing spray, adjustable light intensity and stainless steel trough and drain. Five sizes, 20x24″ to 40x 50″, **$345** to **$491;** Foot release water valve, **$15**

DOUTHITT INK UP TABLES have rubberized tops. Spacous shelf holds bottles, cotton, etc. Four sizes, 28x36″ to 60x80″, **$113** to **$312**

DOUTHITT LAYOUT TABLES have cool fluorescent lighting, four adjustable precision straight edges and are made of rugged heavy gauge steel. Six sizes, 26x30″ to 54x74″, **$214** to **$475**

DOUTHITT STRIPPING TABLES have quick, easy adjustable slanting tops. Drain permits wet-stripping. All four edges are completely adjustable. Fluorescent lamp and reflector move with the glass top for smooth even illumination at any angle. Four sizes, 26x30″ to 40x50″, **$261** to **$373**

HULEN LAYOUT TABLES are of same sizes and design as Hulen Line-Up Tables and have the same accessories. They do not have traveling straight edge assembly. **ONE WAY TILTING TOP, $628** to **$1,175; TWO WAY TILTING TOP, $1,613** & **$1,868**

HULEN LINE-UP TABLES have tilting tops and are designed for maximum working convenience and performance. Precision ground raising and lowering chrome-plated straight edges allow smooth, consistent and accurate movement at 90° angles over entire working area. Heavy duty, channeled outside bar assembly with sliding rule feature. Optional Micrometer Stop Assembly permits movement ±.001 inch. **ONE WAY TILTING TOP,** 4 sizes 36x36″ to 48x72″, **$1,048** to **$1,959;** Micrometer assembly, **$250** to **$325. TWO WAY TILTING TOP** models w/micrometer edge stop, 54x78″, **$3,226;** 66x90″, **$3,727**

LEEDALL DOT ETCH TABLES permit operator to sit or stand while working. Spraypipe at top runs clean water over entire working area. Top tilted 15°; back and side splashwalls prevent dripping. Dump trough with drain in front. Sealed glass top; cool non-glare light from easily accessible fluorescent tubes and special diffusion material. Available accessories include: red light in addition to white light, each with separate controls and foot valve control for water spray pipe. Four sizes, 21x25″, to 41x51″, **$349** to **$615;** As above but with red light also, **$382** to **$653;** Foot valve control, **$36**

LEEDALL LAYOUT AND VIEWING TABLES allow operator to sit or stand in comfort. Adjustable, chrome-plated straight edges. Even light distribution through special unbreakable material. Clear glass top, readily replaceable. Seven sizes, 21x25″ to 61x81″, **$187** to **$756;** with tilt top, 4 sizes, 21x25″ to 41x61″, **$267** to **$409;** accessory side shelf, for 21x25″ to 61x81″, **$31.50** to **$74.50**

LEEDALL UTILITY AND INK-UP TABLES have type 316 S.S. tops mounted on 3/4″ plywood. Corners rounded for safety and appearance. Top designed to hold plate clamps. With bottom shelf and big center drawer that rides on nylon bearings. 6 sizes, 25x29″ to 65x85″, **$162** to **$436**

NU ARC LIGHT TABLES feature highly polished, chromed, machined steel straight edges on all four sides, adjustable; ceramic glass top; softly diffused fluorescent lighting; modern silver hammerloid baked enamel finish. Shipped completely set up, ready to use; no crating charges. 5 sizes available:

LT-18	18x20″ glass area	**$ 45**
LT-23	23x28″ glass area	**$ 99**
LT-42	30x42″ glass area	**$175**
LT-51	36x51″ glass area	**$245**
LT-61	40x62″ glass area	**$285**

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graphic arts lighting

ARISTO TRANS-LUMINATOR produces exceptionally fast, cool and even light for color separation, screening, line and negative-positive work. Designed for simple installation on process camera copyboards, the TRANS-LUMINATOR replaces arcs wherever transmitted illumination is needed. For color separation as well as other work, the daylight white grid lamp is recommended. Filter factors approx. same as on arcs. Where color is not a consideration, the actinic blue is highly recommended. Its very high actinic quality gives greater speed. Clear, steady light and economical. Uses 1/10 current consumption of arcs. Comes in two parts, lamp housing and 110-115 VAC power pack. Add B or W to Model # to specify Blue or White grid. **MODEL T 12,** 12x12x6″, 225 Watts, **$275; T 16,** 16x 16x6½″, 320 W, **$285; T 22,** 18x22x 6½″, 460 W, **$385; T 26,** 22x26x6½″, 525 W, **$467.50; T 28,** 24x28x6½″, 750 W, **545; T 36,** 32x36x7″, 1000 W, **$699.50**

ARISTO COLD GRIDLITE FOR GRAPHIC ARTS, adaptable to any gallery-type camera, is valuable for making color separation negatives, or when screening or duplicating black-&-white negatives or positives. Provides even, cool

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light; transparency can be placed close to light source without damage or change of image size. Economical to operate; uses 450 watts. 110-volts AC. Flickerless; normal current fluctuations are absorbed without change in output. Available in two models: Daylight White for making color separations, and Actinic Blue for screening or duplicating black-&-white. Sizes from 16x16″ to 32x36″. From **$280**

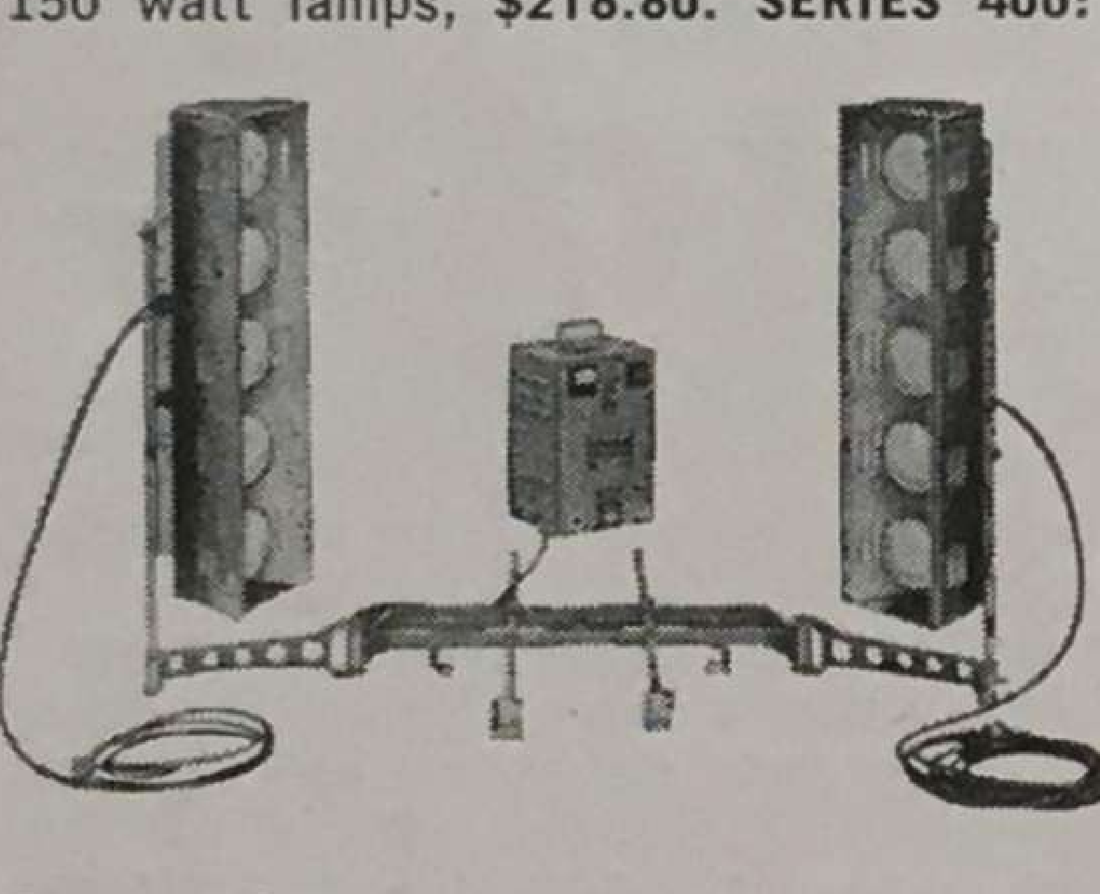
ASCORLUX SERIES 1100 XENON ARC EQUIPMENT offers high-powered, constant, color balanced white lights for all Graphic Arts needs. Pulsed xenon flash technique offers: constant daylight Color with continuous spectrum, constant light output and clean, efficient, relatively cool operation. ASCORLUX equipment provides: Instant start and stop at full output with no warm-up time; less power and maintenance; better working conditions and increased production; safety, dependability and heavy duty. Camera lamps are available in strip lights for 3″ (300W), 12″ (1000W), 24″ (2000W) and 36″ (3000W) PXA lamps. 1000 Watts of PXA lamps will do the equivalent of 50 amps of carbon arcs. Various standard combinations are available, depending upon the wattage and copy board coverage desired. Power supplies, from 300W single to 3000W dual channel, can be gauged to cover any need. Typical assemblies run from 1000W pairs to 8000W double deck sets, **$975** to **$3,400.** For back lighting negatives or transparencies, the **L1124A BOX LIGHT** is typical; this uses 4-12″ 1000W lamps, **$760. ASCORLUX PRINTING LAMPS,** for vacuum frames and photo composing machines, are available in three sizes, 1000W, 2000W or 3000W. Can be used as hanging type, mounted on composing machines or as complete stand models for vertical frames. **$685** to **$1,750.** ASCORLUX models for enlargers are available, **$1,275.** Full line of accessories include: Mounting yokes, stands, timers, control boxes, etc. Replacement PXA lamps, 3″, **$19.50,** 12″, **$26;** 24″, **$30;** 36″, **$50**

ASCORLUME SERIES 1200 "QUARTZLINE" Quality, low cost incandescent lighting equipment for Graphic Arts application. A system of light and power control units and accessories that utilize the advantages of the revolutionary G. E. "Quartzline" filament type lamp. These lamps use the "iodine cycle" principle which lengthens the lamp life while keeping bulb wall clean. This results in a more constant light source with no drop off from lamp darkening. **MODEL A1201**—Double deck camera lamp assembly including 4-L1201 lamp units, 4-F1201 Quartzline lamps and 1 B-1201 power control unit, **$450.** Light units and power control units can be added to increase light intensity or coverage.

COLIGHT CONTACT PRINTING LAMP provides a controlled, directed beam of light to the printing frame. Light is easily adjusted to cover various frame areas and the intensity is simple to regulate by means of a manual rheostat on the control box. Transformer is combination step-down and voltage-regulating. Lamp, 10′ connecting cord, control box, 8′ power cord and attaching screws, **$89.50**

COLORTRAN STAT-LITE offers a new concept in lighting for photostat operations. Pays for itself in increased quality and production. Lights are ceiling mounted, clearing floor area and permitting loading from all sides. Lights never move, resulting in constant level of illumination, more accurate exposure over complete range of enlargement or reduction, and allows operator to control intensity and value of illumination assuring sharper lines, and better quality. Complete with Striplites Converter, relay mounting brackets, 12-150 watt lamps, 10 MiroFlectors, **$398.50**

COLORTRAN LIGHTING SYSTEMS for Graphic Arts cameras. Designed for modern reproduction methods. Versatile, shoots highlights and shadows with one exposure. Full color control. Ideal for wash drawings and color separation; excellent for continuous tone color work. Multiple light sources provide even illumination for entire copyboard without hot spots. A flick of the switch lights the copyboard; one variable control for color temperature settings. Consists of but 2 basic units: a pair of Linelites and a ColorTran Converter. Installation is simple and inexpensive; only one external power connection needed. **SERIES 300:** For copyboards up to 28″ in height. Basic equipment: 1 pr of 4-lamp Linelites w/MiroFlectors, 1 copy King Converter, 10 ColorTran 150 watt lamps, **$218.80. SERIES 400:** For copyboards up to 40″ in height. Basic equipment: 1 pr of 6-lamp Linelites w/MiroFlectors, 1 Superior Converter, 1 pr. of adapters, 14 ColorTran 150 watt lamps, **$443.50. SERIES 500:** For copyboards up to 50″ in height. Basic equipment: 1 pr. of LL-7 Line-Lites w/MiroFlectors, 1 Superior Converter, 1 pr. adapters or bushings, 16 ColorTran 150 watt lamps, **$495. SERIES 600:** For copyboards up to 60″ in height. Basic equipment: 1 pr of 8-lamp Linelites w/MiroFlectors, 1 superior Converter, 1 pr. adapters, 18 ColorTran 150 watt lamps, **$517.50. SERIES 700:** For copyboards up to 72″ in height. Basic equipment: 1 pr of 10-lamp Line-lites w/MiroFlectors, 1 Superior Special Converter, 1 pr adapters, 22 ColorTran 150 watt lamps, **$618.50. DOUBLE BANKED LINELIGHTS** have independent selection of end & center lamps, for boards up to 40″ high, **$889;** up to 50″, **$979;** up to 60″, **$1,124**



LUXOMETER LIGHT INTEGRATORS meet every Graphic Arts requirement for precision exposures. Automatically shorten or lengthen exposure period to compensate for fluctuating light intensities. Enable exact duplicate exposure to be made and also automatically compensate for varying light distance. On step and repeat work they make for uniform exposures throughout entire press plate. In case of power failure the LUXOMETER will automatically close the shutter, turn out the lights and stop exposure mechanism. To resume, merely press the start button. Four models, Type C, for all cameras; Three models, Type P, for all printing frames and photo-composing machines. **MODEL JR.,** is low priced economy model, Type P, **$360;** Type C,**$410. STANDARD,** Type P, **$495;** Type C, **$520. MODEL AE,** the only electronic integrator with "Moving Pointer" that indicates exposure progress at all times, Type P, **$525;** Type C, **$545.** MODEL TR, for camera only, has triple dial, **$550**

MACBETH B-1 SOLENOID CAMERA LAMPS have scientifically designed Nonspot Reflectors that strengthens light on copy edges and corners. Full 12″ trim of carbons. Trim just once for each set of carbons. Carbons burn in perpendicular alignment, not at an angle. Auto. focusing arcs remain in constant focal position. For AC & DC, 35 or 45 amps., 110 or 220V. **SINGLE ARC** lamps; per pair, for camera mounting, **$675;** other mounting styles, to **$1,130. DOUBLE ARC** lamps, pair, **$1,095** & **$1,405. DOUBLE DECK SETS; $1,680** to **$2,415**

MACBETH CONSTANTARC PRINTING LAMPS provide maximum illumination evenness, light intensity and consistent light output. Not affected by drafts, line voltage variations or other external factors. Positive starting with no warm-up. All operating parts enclosed. Automatic, continuous regulation. For **VERTICAL FRAMES:** Singles, 100 amp., **$785** & **$855;** 140 amp., **$1.090** & **$1,160;** 140 amp. double, **$2,180. FOR HORIZONTAL FRAMES:** 100 amp., **$785** to **$1,045;** 140 amp., **$1,090.** For **PHOTO COMPOSING MACHINES:** 100 amp., **$865** & **$880;** 140 amp., **$1,185. MACBETH CONSTANTARC CAMERA LAMPS:** 50 amp.; pairs, **$1,340** to **$1,760;** Double deck, **$2,790** to **$3,310;** 100 amp.; pairs, **$1,550** to **$1,970;** Double deck, **$3,210** to **$3,730;** 140 amp.; pairs, **$2,160** to **$2,580;** Double deck, **$4,430** to **$4,950**

MACBETH SOLENOID TYPE PRINTING LAMPS are available in single & double arc models. Full 12″ coaxial trim with auto. arc focusing, for increased production and greater coverage, gives over 5½ hrs. burning time without retrimming. 35, 45 or 60 amp. models. SINGLE ARC; 35 or 45 amp., **$480;** 60 amp., **$610. DOUBLE ARC:** 35 or 45 amp., **$605** & **$715;** 60 amp., **$735** & **$890.** For **HORIZONTAL PRINTING FRAMES:** Single arc, **$620** to **$785**

NUARC MOTOR DRIVEN ARC LAMPS are completely automatic, provide constant light and color intensity with uniform intensity. Instantaneous strike, power factor-corrected transformer, auto. preset control. Two models available: **N-110** produces 110 Amps. at the carbons, draws 15.5 amps., **$675; N75** produces 75 Amps. at the carbons, draws 12 amps., **$550. NUARC HI-LITE ARC LAMPS** with automatic arc control eliminate bouncing and sputtering; give uniform intensity and color temperature; are low in cost and operation. **Model H-35,** 50 Amps., for frames up to 24x36″, complete with stand, transformer and two reflector shields, **$198.00; Model H-65,** as above but for frames up to 40x50″, 75 Amps., **$350.00; HI-LITE CAMERA LAMPS,** with transformer and reflector shields, **Model H-66,** 75 Amps., per pr., **495.00; Model H-22,** 30 Amps., per pr., **$295.00**

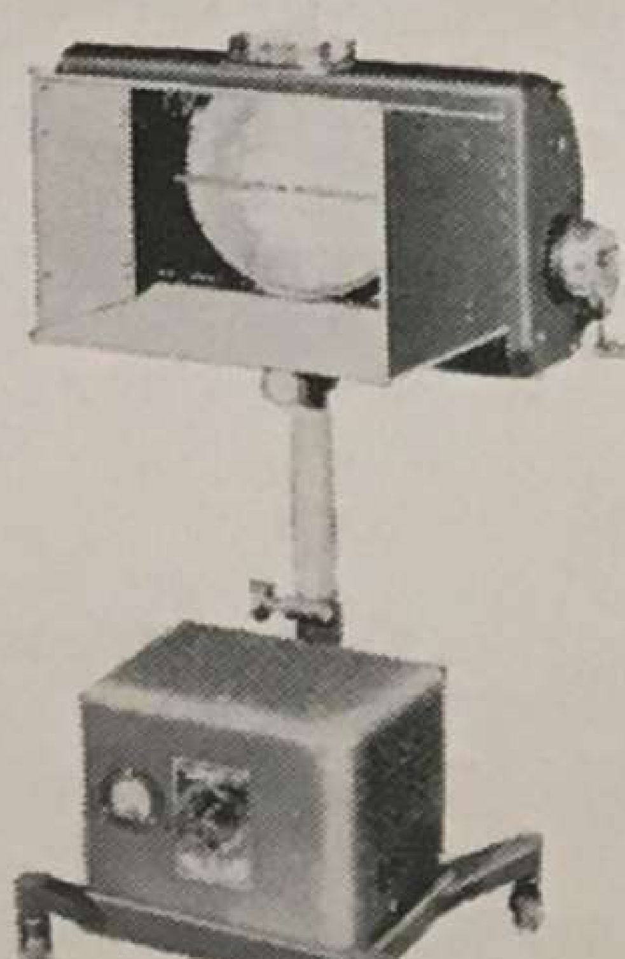
PHOTOGENIC "GRAPHIC-MASTER" PXA LIGHTS incorporate GE's new Pulsed Xenon Arc lamps into equipment specifically engineered for the Graphic Arts. When switched on, GRAPHIC-MASTER is at full light output—with no light source variation—for the life of the lamp. Quick lamp change; protective glass cover; forced draft ventilation. Compact 2000 watt power supply saves space, has all essential controls and safety features, rolls under camera bed. Units readily adapt to present timing devices; fit on camera arms or roll-easy stands. Continuous spectrum approximates noon daylight; color temperature effective with photo sensitive materials. Two models available: **PXA-24,** single unit, **$315.00;** PXA-12D, double decker, **$535.00;** PXA-20, power supply, **$700.00**

ROBERTSON FLASH LAMPS are available in manual or automatic models. Manual model, wired with plug for timer or integrator, mounted on new equipment, **$85;** unmounted, **$70.** Automatic model with darkroom remote control, mounted on new equipment, **$250**

STRONG COMET 45 PRINTING LAMP is a completely self-contained unit developed to meet the requirements of small reproduction shops and the screen process industry. Requires no special wiring, uses 110VAC, covers work areas up to 28x36″. Comes with transformer, 5 minute timer, contactor, reflector, attach. cord and has carbon storage area. Weighs less than 80 lbs **COMET 45, $350**

STRONG GRAFARC 95 AMPERE HIGH INTENSITY ARC LAMP is engineered for the utmost steadiness in intensity and spectral distribution, thus eliminating these variables in density control. Using a precision variable speed carbon feed motor that maintains constant arc gap length, unequaled stability is obtained. Accurately formed, silvered glass reflector is removable, easily cleaned and designed to produce extremely uniform illumination over the entire surface of any size work area when used with vertical printing frames under 40x50″. Highly efficient Grafarc power supply transformer eliminates power-wasting ballast resistors and is designed for constant, heavy duty without burnout. Automatic striker establishes and brings up arc to full intensity within a few seconds. Using the new copper coated high intensity carbons maintains the principal light source at the crater rather than in the flame. Proper design, shielding and materials assure long mechanical life of all moving parts. Full line of transformers, for stand or wall mount, available. **Model 32000, $505.00**

STRONG GRAFARC 140 AMPERE HIGH INTENSITY PRINTING ARC LAMP is designed for vertical printing frames 40x50″ and larger. Makes large plates faster, reduces makeovers, has extreme uniformity and absence of undercutting. Using 230VAC, lamp draws only 35 Amps. with the arc burning at 140 Amps and 35 volts. Highly efficient transformer eliminates power-wasting ballast resistors, and assures constant light output regardless of line voltage variations. Copper-coated 11mm x 8″ high-intensity carbon trim is consumed to two inch stub without retrimming, provides over 1¾ hrs. burning time.



Removable, silvered glass reflector is easily cleaned. Automatic striker establishes arc at full intensity in a few seconds. Full line of transformers, stands, brackets and adapters available. **Model 32500, $525.00**

STRONG CHALLENGER CAMERA LAMPS have scientifically designed metal reflectors that distribute their point source light for maximum, uniform coverage. Positive, precise motor feed maintains constant arc gap length, with light color temperature at uniform 6600°K, and eliminates most illumination variables. Two connector receptacles in the transformer housing permit dual lamp operation from single transformer. Using 230VAC, two 75 Amp. lamps draw 25 amps., two 110 Amp. lamps draw 40 amps. Two models available; Both use copper-coated high intensity carbons that burn up to 1¾ hrs. without retrimming; **Model 56007,** uses Photo 88 carbons @ 75 amps., 25v @ the arc, **$370.00. Model 56008,** uses Photo 118 carbons @ 110 amps., 28v @ the arc, **$410.00**

STRONG GRAFARC TRI-POWER THREE-PHASE ARC PRINTING LAMP is the most powerful lamp ever developed for the Graphic Arts field. Designed to operate from standard three-phase power supply, it burns a 2½ hour trim of three 9mm x 12" copper coated White Flame carbons that are positioned to produce a single light source that reduces any tendency for dot undercutting. Cuts costs in half. Simple controls; uniform light and color temperature. **Model 62000,** complete with transformer and base, **$2,195.00**

film punches

CONDIT PUNCH punches 1/16" holes in the film margin outside picture area. Bar is pressed down punching 2 holes at the same time. Guide on the small punch is fastened in either position by 2 screws. Pin glass (5x7-$12) (8x10-$18) or register strip ($12) used with punch. Register glass or strip matched to serial number on punch. Punches and anvils are hardened. 4x5-5x7, **$18;** 8x10, **$19.50**

CONDIT FILM PUNCH punches 2 holes 1/16" in diameter in film margin; guides for centering different size films. Film size changes must be compensated for by controlling moisture content of film. Warm dry air causes film to shrink; moist air or steam causes film to expand. For 35mm to 5x7, **$123;** 35mm to 8x10, **$135;** 2¼ to 8x10, **$129**

CONDIT DIAGONAL FILM PUNCH. increased accuracy of registration where films must be used for multiple exposures. Film size changes more pronounced except when used with stable base film due to the greater distance between holes. 8x10, **$135**

CONDIT MICROMETER FILM PUNCH. Punch adjustable plus or minus forty thousandths of an inch for use where film size changes cannot be compensated for by usual methods. Must be used in conjunction with adjustable pin glass. Film guide adjustable for 8x10 and 10x12. Ea., **$180**

KODAK REGISTER PUNCH—For use with Kodak Register Boards, both small and large. Mounts securely. **$60**

sinks

ARKAY STAINLESS STEEL SINKS provide the ultimate in beauty plus functional design. All models feature rounded corners and all inside corner contours are made with full ½" radius . . . thus eliminating all sharp angles and making the cleaning operation easy. Made of heavy type 316 highly burnished stainless steel, heliarc welded, polished and passivated. Sinks with splash panel feature one-piece construction, making the panel an integral part of the sink body itself, eliminating any accumulation of sediment or chemicals. All surfaces not visible to the eye are covered with a special coating to prevent condensation. Standard sizes from 18 x 36 x 6" to 47 x 120 x 10"; special sizes available on special order. Sinks without splash panel are priced from **$119.50** to **$496;** with splash panel (as illustrated), from **$143** to **$585; ARKAY SINKS STANDS** are heavy gauge steel, coated with chemical-resistant baked-on paint. Leveling bolts permit quick adjustment to any floor irregularities. From **$40** to **$100.** Optional shelf is easily installed; makes storage a simple matter; leaves floor beneath open for easy sweeping. From **$38** to **$120**

ADLER PROCESSING SINKS are available in three different material combinations. **GROUP I:** made of type 316 S.S. on type 304 S.S. legs and braces. Highly polished, these sinks have no right angles in the sink body since all corners are rounded. Siphon drain, roll rim at front working edge. Four models, 3 to 7' long, 24" wide and 5" or 10" deep, **$320** to **$380;** Same, but with cabinet base instead of legs, **$370** to **$530. GROUP II:** Exactly the same as Group I, but all sink bodies are made of type 304 S.S., for use with less corrosive solutions. Same sizes, **$280** to **$350;** on cabinet base, **$320** to **$480. GROUP III:** Same sizes and material as Group II, but does not have rounded corners, legs are made of carbon steel painted with acid-resist machine enamel. No cabinet bases. **$200** to **$275. GRAPHIC ARTS SINKS** are 5" deep, 24x84" to 48"x192", hold 3 or 4 trays fr. 26x22" to 50x42", **$390** to **$1,800**

BAR-PLATE MICRO-PERFECT SINKS are made in various sizes to meet various requirements. Micro-Perfect Offset Plate Steel Developing Sinks are heliarc welded of heavy gauge Type 316 stainless steel with 1½" I.P.S. drain overflow, stainless steel duckboard, ½" I.P.S. brass spray pipe, storage shelf. Six sizes, 22x28x8" to 64x84x8", **$275** to **$700.** Imperial Developing Sink is made in 3 sizes, **$825** to **$1125**

BROWN PLASTIC SINK is available for processing of 12x15" or 20x25" materials. Red fluorescent lighting under plastic sink and transparent plastic trays permit inspection of development. Includes viewer and dot etch table with red and white light source; water temperature regulator with vacuum breaker to maintain a temperature of 68°, provided tap water is no more than 68°, storage shelves in base. Including trays, 12x15" size, **$495;** 20x24", **$725**

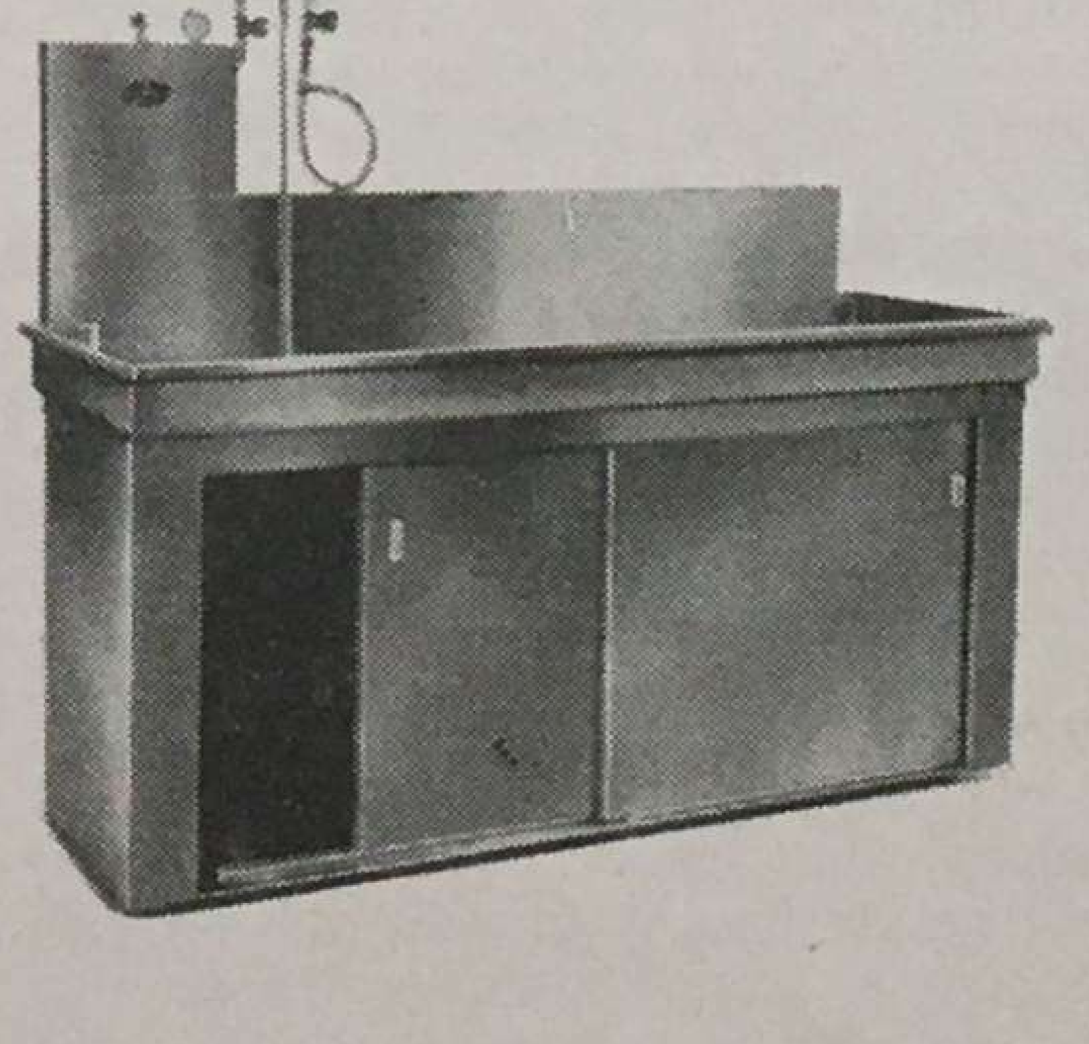
BROWN STAINLESS STEEL DARKROOM SINK Type 316 stainless steel, all heliarc welded, with drain and overflow, storage shelf. Nine sizes from 22x28", **$277** to 45x104", **$567.** Crating extra. **BROWN STAINLESS STEEL PLATE SINK,** and darkroom sinks, with addition of wood or stainless steel duckboard. Six sizes, from 22x28", **$277,** to 64x84", **$625. BROWN TEMPERATURE CONTROLLED SINKS** assure temperature to within ±1° by built-in Tecumseh refrigeration unit. 20x24", **$884;** 26x30", **$1118;** 30x40", **$1457;** 40x48", **$1877**

DOUTHITT STAINLESS STEEL SINKS are solid, sturdy and 36" high, and come in ten sizes. All are 5¾" deep and range in size from 25x33" to 45x129" inside dimensions. Optional accessories are faucets, backsplash, hot and cold water regulating thermostat with dial thermometer and faucets. **BASIC SINKS, $159** to **$525;** with accessories listed above, **$429** to **$850**

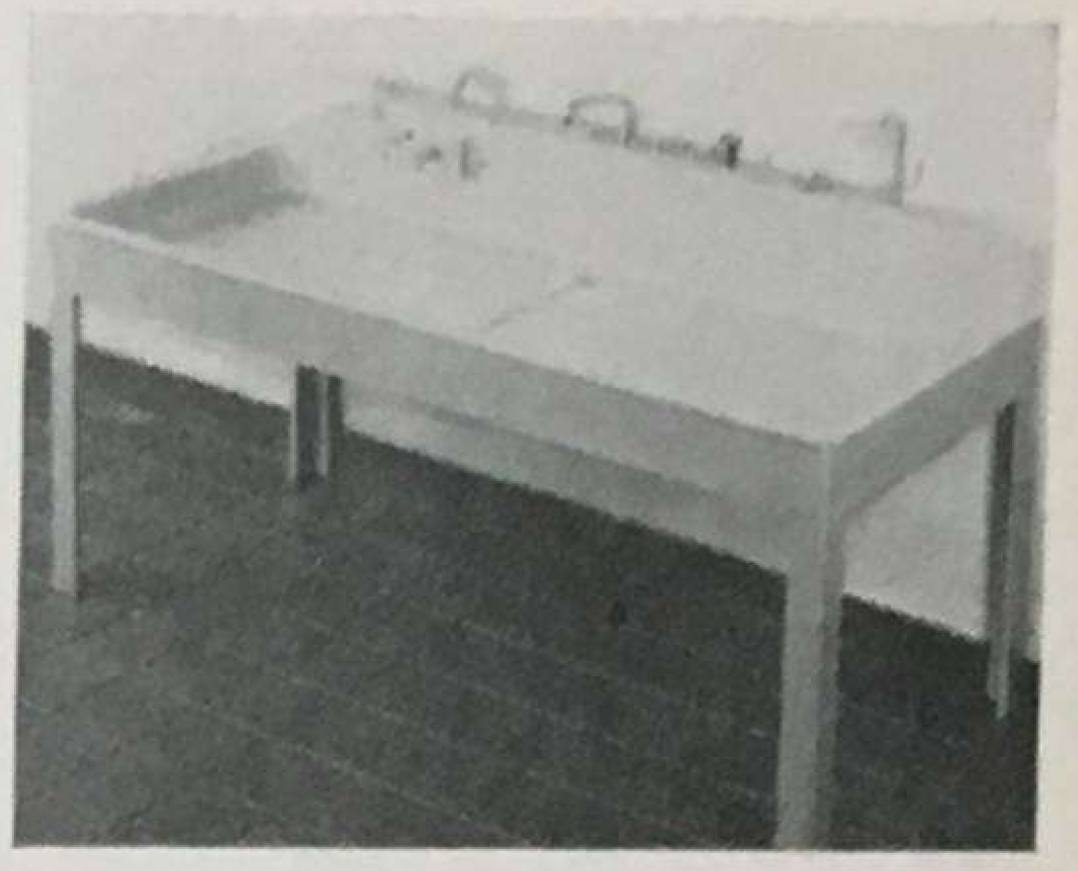
DOUTHITT TEMPERATURE CONTROLLED SINKS are available with or without refrigerated storage cabinets. All have safety controls and heating and cooling units to maintain proper temperature all year round; circulating water system, space for three trays and water outlet. Full line of optional accessories available. **TYPE DD,** 3 sizes, 20x24" to 30x40", **$925** to **$1,375; TYPE DDC,** same but with refrigerated storage cabinet, **$1050** to **$1,550. SPECIAL TYPE DD,** 16x20" with built in wash tray, **$910**

DOUTHITT TEMPERATURE CONTROLLED STRIPPING SINK is the perfect unit for stripping or as an auxilary sink. Used in gravure for carbon tissue sensitizing. Has both heating and cooling mechanisms; does not circulate water. Completely insulated. 3 sizes, 26x30" to 40x48", **TYPE DS, $776** to **$888. TYPE DSC,** same but with storage cabinet, **$872** to **$1,005**

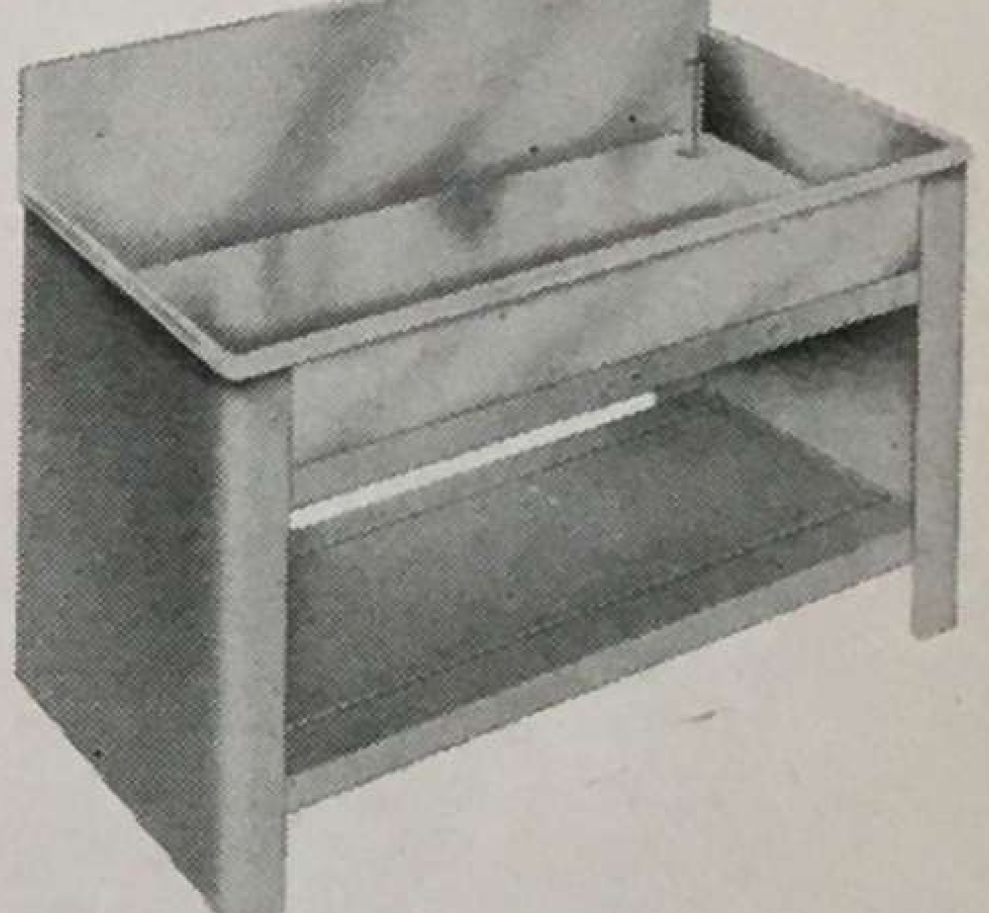
FISHER STAINLESS STEEL PROCESSING SINKS are built of 316 S.S. that is heli-arc welded and passivated to prevent corrosion. Sink bodies mount on removable S.S. leg bases or S.S. cabinet bases. All corners curbed for easy cleaning and use. All drains are die-sumped for thorough draining and quick, easy cleaning. Adjustable S.S. levelling screws for perfect installation and good drainage. Insulated undercoating prevents condensation dripping and deadens sound. Sinks up to: 24" wide are made of 18 gauge S.S.; up to 36", 16 gauge; up to 48", 14 gauge. All legs and braces are made of 14 gauge S.S. 42 sizes from 24x36x 5" to 48x210x5", on S.S. Leg base, **$357** to **$1,866;** on S.S. Cabinet base, **$434** to **$2,498**



KREONITE FIBREGLASS SINKS are of one-piece molded, seamless construction, and have all corners and edges rounded for safety and ease in cleaning. High corrosion resistant and are unaffected by rapid fixers, color bleaches or iron chloride. Fluted bottoms for fast, complete drainage eliminate need for duck boards. **GRAPHIC ARTS SINKS:** for developing process line and halftone negatives, come with either 3 or 4 trays (1 translucent), dump trough & backsplash, temperature control system that water jackets trays and Dial-A-Developer coils. Dial-A-Developer delivers equal amounts of A & B solution into tray, at correct temperature, by means of a finger tip control. Safelight inspection through sink bottom, includes timer on backsplash and safelight housing. Available in 5 sizes from 36x70" to 40x 105½" and with capacities of either 3 or 4-16x20" or 20x24" or 3-24x30" trays, **$1,250** to **$1,505. GENERAL PURPOSE SINKS** are 5" deep and come in various lengths and widths to meet all requirements. Have 7" backsplash and vary in width from 17 to 30" and length from 3 to 8½'. Seven sizes, **$140** to **$325.** Accessory stands and cabinets available.



LEEDALL HEAVY DUTY SINKS have sinkpan of heavy gauge 316 S.S. with rolled rim and rounded inside corners for easy cleaning and handling. Quickly disassembles to pass through 20" door. Heliarc welded; has 1½" IPS S.S. drain and standpipe. All sinks 6" deep. **DARKROOM MODELS:** with or without 8" backsplash, 28x77" to 45x106", **$345** to **$714. GENERAL PURPOSE MODELS:** 28x41" to 64x85", **$258** to **$732. LEEDALL STANDARD PROCESSING SINKS** are economy models with rounded rim corners and 1" box type rims. Heliarc welded 316 S.S. Has same general features as above Heavy Duty Sinks. **DARKROOM MODELS:** w or w/o backsplash; 28x77" to 45x106", **$231** to **$537. GENERAL PURPOSE MODELS:** 28x41" to 44x60", **$183** to **$348**



LEEDALL OFFSET PLATE SINKS have 316 S.S. heliarc welded sinkpan; sink length spray-pipe; kiln dried wood lattice drain rack that is adjustable for rough or finished developing. Large steel storage shelf with front and back stops. Coated sides, bottom and back to prevent condensation. Adjustable feet, 1½" IPS S.S. drain and rounded rim corners. All 8" deep, 5 sizes, 29x40" to 64x85", **$273** to **$735** NO. 1104

LEEDALL TEMPERATURE CONTROLLED SINKS automatically maintain constant water temperature ±½° to assure perfect processing. Unit heats or cools water as needed. Has chemical dump trough, dimpled sink bottom, water cooled compressor, fiberglass insulation and large storage cabinet. Made of 316 S.S. Accessory refrigerated cabinet and side wash tray available. NO. 1049

continued on next page

For three trays; 20x24″, **$1,125;** 24x30″, **$1,390;** 30x40″, **$1,795;** With refrigerated cabinet, sizes as above, **$1,295; $1,560 & $1,965;** Side wash tray, 20x24″, **$195;** 24x30″, **$245;** 30x40″, **$338**

tanks

LEEDALL COLD TOP TANKS are of type 316 S.S. with leak proof construction. Complete with: hinged cover to prevent evaporation; stand to hold tank in position for use and S.S. dipper to handle various plate sizes. **STANDARD MODEL:** for 20x24″ plates, **$94;** 22x28″, **$104. HEAVY DUTY MODEL:** is heliarc welded. For plate cleaning, descumming and gaco developing and fixing solutions, 20x24″, **$126;** 22x28″, **$138; SPECIAL MODEL:** for magnesium plates; heliarc welded; with lucite dipper, 20x24″, **$147;** 22x28″, **$159** NO. 1110

trays

ADLER STAINLESS STEEL TRAYS TRAYS are available in five different sizes and come in both type 316 & 304 S.S. Type 316 is used for maximum corrosion resistance. All trays are 4″ deep. First price, type 304; second, type 316; 18x22″, **$34.65 & $38.50;** 22x26″, **$40 & $45.37;** 26x32″, **$50 & $59.62;** 32x42″, **$80 & $87.75;** 42x50″, **$116 & $124**

ARKAY STAINLESS STEEL TRAYS meet the highest standards of the photographic and graphic arts fields. Cannot crack, chip or rust. Standard series are Heliarc welded and straight sided. Deluxe series are made of heavier gauge steel, all corners are heliarc welded, ground, polished and passivated so tray is of one-piece seamless construction. Flared sides for easier nesting. Both series are available in 9 sizes. Special sizes can be made up and drain installed if desired. 2½-gallon capacity, 12x16x3″, **$16.45** and **$32.95;** 5-gallon, 18x22x3″, **$23.95** and **$41.95;** 7-gallon 22x26x3″, **$30.45** and **$52;** 9-gallon, 24x30x3″, **$39.95** and **$60.75;** 17-gallon, 32x42x3″, **$73.95** and **$94.50;** 10-gallon, 18x22x6″, **$37.95** and **$61.50;** 14-gallon, 22x26x6″, **$42.50** and **$69.95;** 18-gallon, 24x30x6″, **$56.95** and **$86.95;** drain installed, **$4**

BROWN STAINLESS STEEL TRAYS, are of Type 316 stainless heliarc welded. All 3″ deep 16x20″, **$34;** 18x22″, **$40;** 20x24″, **$43.50;** 22x28″, **$48;** 26x30″, **$60;** 30x40″, **$71.50;** 36x40″, **$79.50;** 40x48″, **$95.50**

FISHER STAINLESS STEEL PRINT TRAYS are made of 18 gauge, reinforced, 316 S.S. with satin-smooth finish. Heli-arc welded and passivated to resist corrosion, they also have no-snag corners. All are 4″ deep. 18x22″, **$52.50;** 18x 26″, **$69.75;** 26x32″, **$75,** 32x42″, **$110;** 42x50″, **$157**

GRAFIC STAINLESS STEEL TRAYS are Type 316 stainless steel; will not crack, chip or rust. Easy to keep clean. Double seamed, outside soldered. 12x16x3″, **$18.15.** 16x20x3″ **$23.60.** 18x22x3″. **$26.02.** 22x26x3″, **$33.28.** 24x30x3″, **$48.** 32x42x3″, **$80.** 12x16x6″, **$24.20.** 16x20x6″, **$31.46.** 18x22x6″, **$41.14.** 22x26x6″, **$46.59.** 24x30x6″, **$60.** 32x42x6″, **$100.** Type 316 18 gauge all welded stainless steel trays, one piece construction. Same dimensions, prices: 3″ deep, **$29.04, $38.12, $41.75, $53.24, $68.97, $116.16.** 6″ deep, **$38.72, $50.82, $66.55, $75.02, $87.12, $135.52**

LEEDALL STAINLESS STEEL TRAYS are chip, crack and corrosion proof. Made of type 316 heliarc welded S.S. Lip reinforced with heavy S.S. rods for rigidity and strength. Embossed cross-ribbed bottom film handling convenience. Developing trays, 3″ deep, 9 sizes, 11x14″ to 40x48″, **$17.25;** Fixing trays, 5″ deep, same sizes as above, **$22.50** to **$132**

U. S. STONEWARE TRAYS are one piece seamless construction; will not peel, corrode or chip; acid and alkali proof. Will not fog or discolor solutions. All trays have inside depth of 4″.

Size No.	Plate size (in.)	Weight (lbs.)	Price
1	16x20	61	**$ 37**
2	20x24	84	**55**
3	22x28	108	**66**
4	32x36	142	**109**
5	38x42	181	**166**

See pages 64 to 72
for other sinks,
tanks & trays

film dryers & whirlers

PAKO MODEL 2 DRYCAB provides a simple, practical way to dry black & white or color films, rolls, cut or pack type, also color print materials. Fully loaded it will hold 50 rolls amateur size film, or 60 rolls color film, or 100-4x5″ or 5x7″ films or 50-8x10″ films. 45 minute drying time can be cut to 30 minutes by using Pakowett in final bath. Warm, filtered air, thermostatically controlled, is force circulated through top vent. Max. operating temperature of 125°F. permits usage anywhere without employee discomfort. All-metal cabinet occupies less than 6 sq. ft. of floor space. Full size doors on front and rear give quick access to drying area. 115V 60AC, consumes 1650W., **$395**

BROWN LITHO PLATE WHIRLER, with radial heating elements, 220 volt, 500 watts each and 110-220 AC dual voltage motors. Automatic opening and closing of water flow operates as pipe is brought into flushing position and returned. Controls grouped on panel in front of whirler include heating switch, tachometer, pilot light and speed control wheel. Two-, three- and four-strip heaters, as required. All equipment has floor-type adjustable leveling screws. Fourteen sizes, for 20x24″ to 60x80″, ranging in price from **$491** to **$1350**

FISHER UNIVERSAL ALL FILM DRYER, designed for Industrial, Commercial and Professional laboratories, will dry a complete film load quickly and safely. No installation required, simply plug into 110VAC line. Made of heavy gauge 316L Stainless Steel, heli-arc welded and passivated. Emulsion is kept at safe temperature by adjustable thermostat. Only filtered air enters the unit. Will dry 14,280 sq. in. of film in 15 min. i.e., 48-20x24″ sheets or 14x17″ x-ray films, 60-120 roll films, etc. Floor space required, only 28½x20″, stands 83″ high, **$620**

FISHER ANHYDRATOR dries film without heat in less than 10 minutes. Does not change film density as heat does. Keeps grain size at a minimum. Prevents image distortion. Film is always clean as closed system admits no outside air. Not affected by room temperature or humidity. No supplies needed as special anhydrating agent lasts indefinitely. Available in four sizes: **MODEL 50,** for films or plates up to 14x17″, **$1,285; MODEL 235,** up to 20x24″, **$2,125; MODEL 3040,** up to 30x40″, **$3,511; MODEL 4048** up to 40x48″, **$4,004**

film cabinets & cutters

BROWN FILM STORAGE CABINET with cutter and four light-tight drawers and storage cabinet. Eight-inch shelf on right of 24″ cutter. **$220**

COLIGHT PLATE & NEGATIVE FILING CABINETS are constructed of 20-gauge cold-rolled steel, with baked-on gray crinkle enamel. Designed to be stacked in units of four. Priced from **$49.50**

LEEDALL REFRIGERATED CARBON TISSUE STORAGE CABINET provides safe, efficient storage with maximum preservation and uniform results. Adjustable from 10 to 28°F., cabinet temperature is held within ½° of setting by means of blower fan. Six big drawers are ventilated on 3 sides, two drawers have removable partitions. Water cooled ½ HP compressor; quick, easy defrost without removing tissue. Double walled fiberglass insulated. With 2½″ deep drawers; 28x41″, **$1,756;** with 30x48″ drawers, **$1,906**

magnifiers

KODAK ACHROMATIC MAGNIFIER, 5X is indispensable in color work. Has 5-power color-corrected lens in aluminum mount supported by translucent plastic skirt providing shadowless illumination of area being inspected. Focusing movement is one-half inch. **$11**

Kodak
ACHROMATIC MAGNIFIER 5X

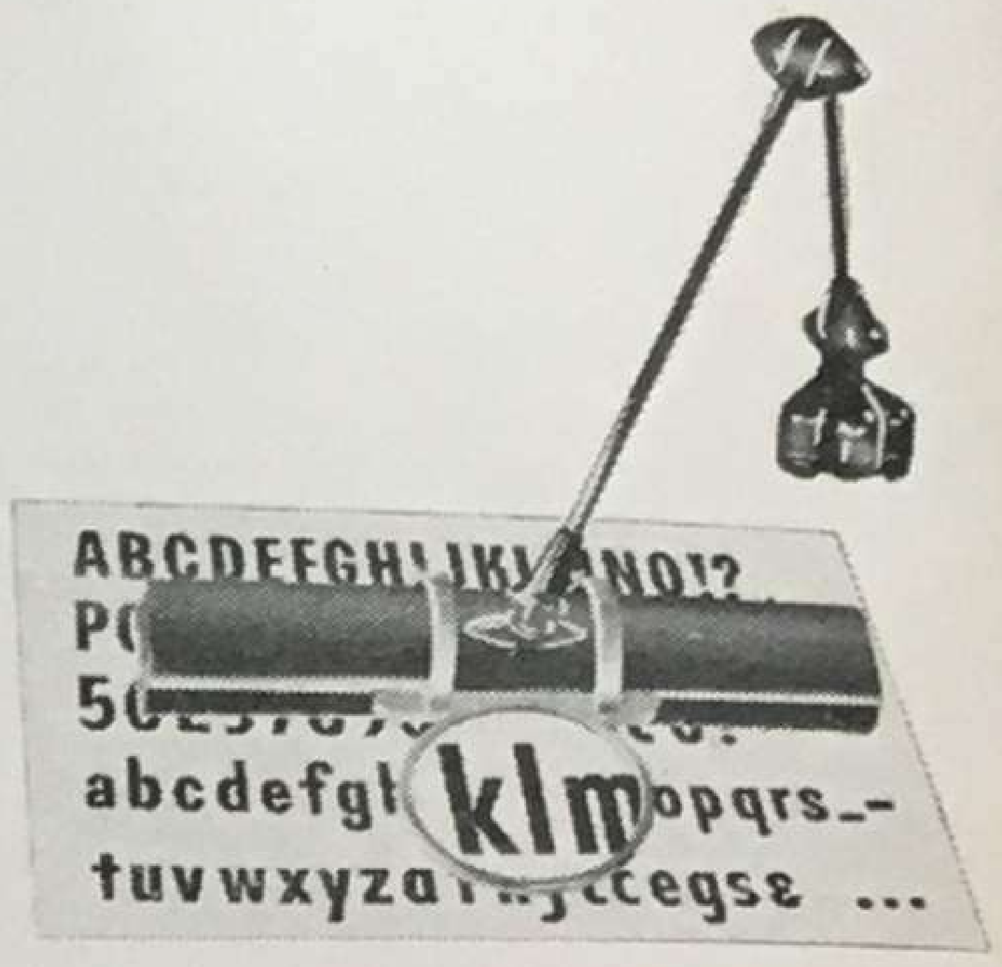
CHALLENGER MAGNIFIER is an economical triple lens unit that has 10x fully corrected magnification. Mounted in a crystal clear plexiglass base, the Challenger is easy to focus and use, **$12.50**

EDNALITE MAGNIFINDER is a precision instrument used for instantaneous critical focusing with any reflex or ground glass cameras. When placed directly on the surface to be viewed, its coated lenses produce a high relief image sharp to extreme edges. **$9.75**

EDNALITE POWERSCOPE is large-field, color, distortion & shadow-free magnifying optical system for examining details at up to 7 X lifesize. Large 5″ aperture permits fatigue-free viewing with both eyes. Built-in 22 watt circular fluorescent lamp surrounds optical system for cool, high-intensity illumination. With Screw-On Flange Base, **$99.50.** With Table Pedestal Base, **$109.50.** Additive Achromat for increasing mag. from 2.5X to 3.5X, **$30**

ETCHER'S DELITE is specifically designed for users, such as etchers, who work with rubber gloves. Offering 10x magnification, this triple lens magnifier is mounted in clear plexiglass with extra long holding surface that is rounded to fit the hand. Side finger grips and saw-tooth design of base permit minimum contact and eliminate grabbing and sticking. **$14.25**

SEE-EZ MAGNIFIER is a 3 diopter, 14″ focal length, optically-ground and polished 5″ diameter magnifier made of the highest grade optical glass. It is mounted in a frame which permits it to be fastened to any desk-type fluorescent or incandescent lamp shade in seconds. Mounted in this manner it is instantly available for use and a quick turn of the lamp shade removes it from the field of view. With this magnifier it is possible to obtain full illumination from the 18″ fluorescent tubes or the incandescent lamp and permits the use of both eyes to obtain wide coverage and large magnification with extremely flat field of view. The incandescent model is designed to fit any round lamp shade. Recommended for use by artists, dentists, dental technicians, doctors, electronic repairmen, engravers, jewelers, letterers, model makers, parts inspectors, plate makers, lithographers, photographers, retouchers, podiatrists, scratchboard artists, stamp collectors, hobbyists. Magnifiers are available in 3 colors: Hammertone Brown, Grey and Antique White. Fluorescent model FD5, **$17.25.** Incandescent model ID5, **$16.25**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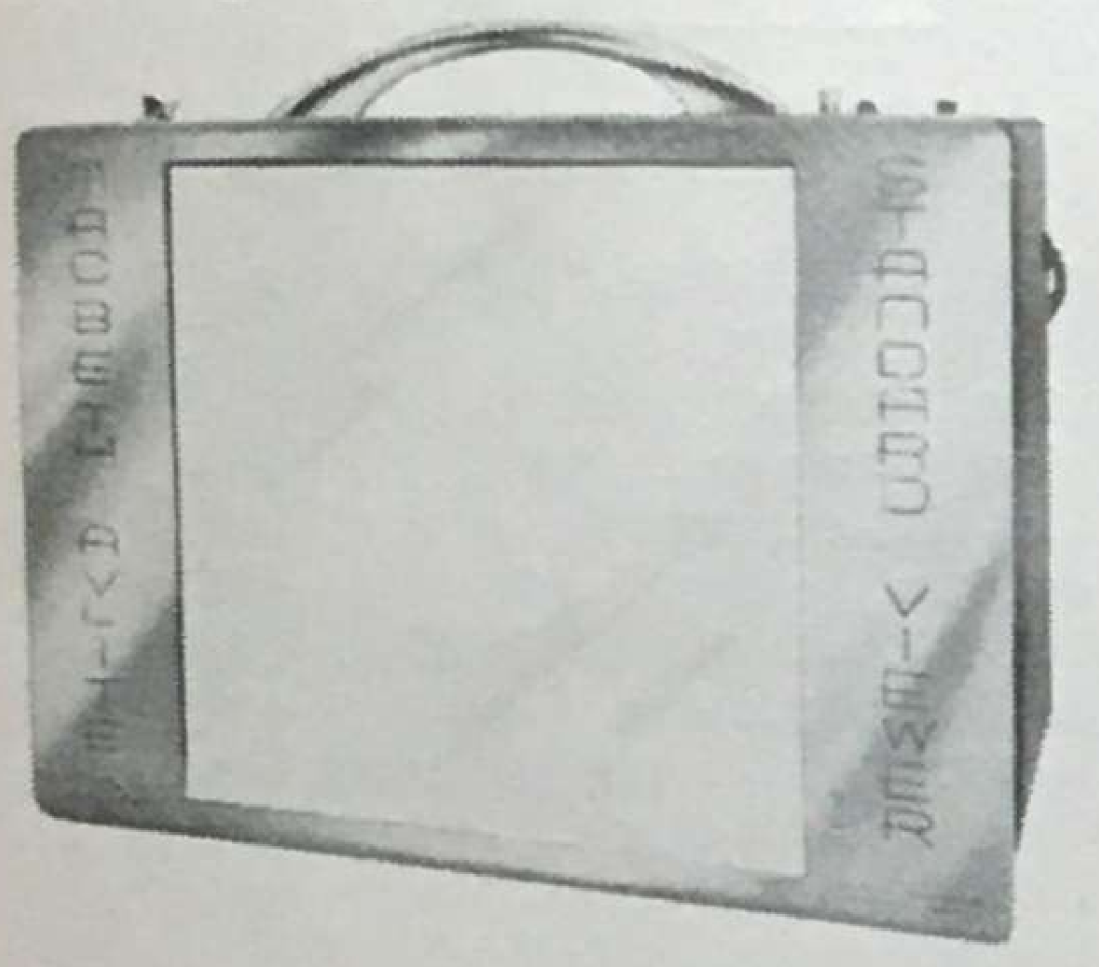
PARAGON MAGNIFIER FOR GRAPHIC ARTS has full 10x magnification over ½″ diameter, flat field. Three-element, precision ground lens folds into handle for safe carrying. Black molded plastic handle with aluminum fittings. **$14.65**

PRE-COP-TIC ACHROMATIC MAGNIFIERS have large flat field with excellent definition. All models have interchangeable bases. Aluminum cells are anodized and black dyed to resist corrosion. Protective gaskets seal top and bottom of lens cells. Focus is held by means of convenient vibration and shock proof lock ring. Four popular types; MODEL #10's are 9x, MODEL #20's are 12x. **SWINGING BASE TYPE:** rotates to any position, stainless steel tension spring, **MODEL #10, $8.50; #20, $10. GRIP-EASY TYPE** for etchers has large, oblong grooved base for easy pick up while wearing gloves. Clear plastic base does not block light. **MODEL #10, $10; #20, $11.50. CLEAR PLASTIC BASE** to admit light to subject matter while magnifier rests directly on object. **OPAQUE PLASTIC BASE** to exclude light when used on negatives over light tables. Specify clear or opaque base; **MODEL #10, 8.50; #20, $10**

SELSI ENGRAVERS LOUPES have fine quality coated achromatic lenses, Model 382, plastic and metal, folds up similar to a linen tester, 12x, **$6.75;** Model 383, as above but 20x, **$9.** Model 378, 12x, all-metal with swivel mount and aluminum lock washer. With pigskin case, **$9.50.** Model 380, 12x, clear lucite frame 87mm long, 26mm high, aluminum lock washer. With pigskin case, **$12.** Model 414, highly corrected 10x Triplet in swing out metal case. With leather case, **$7.50**

reproduction viewing aid

MACBETH AVLITE offers a new concept in standardized lighting for viewing photographic color prints and transparencies. Using an average color light that is (visually) approximately halfway between incandescent light color temperature and average daylight color temperature. The AVLITE source is 3900° K. Source light has better than 5x the life of an ordinary incandescent bulb. This average color temperature was selected by ASA because it is more compatible with average surround lighting conditions and requires less observer adaptation. Available in six different models: **R-214,** portable 10x 10" reflection print viewer, on-off switch, **$95; T-214,** standard portable 10x10" transparency viewer, push button on-off and two-position brightness switches, **$79.50. T-240,** universal 10x 40" transparency viewer accepts 4-8x10's with masks, 5 without, **$225. T-420,** universal 20x20" transparency viewer, **$195. R-240,** universal 48x20" print viewer, print capacity up to 3-16x20", art copy up to 48x21", **$395. T&R-240,** combination unit for 48x20" prints and 40x10" transparencies, **$595**



color guides, gray scales & step wedges

KODAK PAPER GRAY SCALES are intended for inclusion in the original scene to be photographed. Helpful in balancing and identifying color separation negatives. 10 steps are included on each card. Uncalibrated: 2x10", **$5.75;** 8x10", **$16.50.** Calibrated: 2x10", **$14.00;** 8x10", **$24.75**

KODAK COLOR SEPARATION GUIDES contain 9-color Kodak Color-Control Patch, 10-step Kodak Gray Scale, two strips of Kodak Register Marks. Color patches and gray scales serve as a check on matrix exposure time and color balances of Dye Transfer Prints. Register marks are useful in complicated masking and double-exposure techniques. Large, 14" long. **$1.50;** small, 7" long, **$1.15**

KODAK PHOTOGRAPHIC STEP TABLETS are useful in making color prints from Kodachrome and Ektachrome transparencies when gray scale is not included in original scene. They are intended to be fastened to the side of the transparency before making color separation negatives. #1A, ¾x3-3/16", 11 steps, uncalibrated, **$4.00;** #2, 1x5½", 21 steps, uncalibrated, **$4.75;** calibrated, **$13.00** #3, 1½x9⅞", 21 steps, uncalibrated, **$5.75;** calibrated, **$14.00**

STOUFFER CAMERAMEN'S GUIDE is a 12 step Opaque Grey Scale, ½x5", with density increments of .15 and a 256 line cross pattern that checks focus and resolution. To be used with opaque copy, **$3.20;** calibrated, **$8. STOUFFER COLOR GUIDES** made in 3 sizes having a true 12 step Grey Scale, the 6 basic colors in 5 saturations of 100%, 50%, 25%, 10% and 4%, plus a set of shades having 100% saturation with .41 neutral density added. #1—4x5 Opaque Color Guide, **$26.50;** #2—8x10 Opaque Color Guide, **$37.50;** #3—16x 20 Opaque Color Guide, **$65. STOUFFER GREY SCALES,** opaque, numbered. ½x 5", 12 steps of .15, **$3.20;** ½x5", 12 steps of .15, calibrated, **$8;** ½x5", 20 steps of .10, **$5.50;** ½x5", 20 steps of .10, calibrated, **$12.50. STOUFFER RESOLUTION GUIDES** have 1x3" scale with tapered lines calibrated to 2/10,000 of an inch, a reverse having tapered clear spaces, calibrated to 2/10,000 of an inch, and a 256 line plaid pattern at one end. Model #1, Transparent, **$5.75;** Model #2, Opaque, **$5.75. STOUFFER STEP WEDGES, TRANSPARENT, NUMBERED.** #21, ½x5", 21 steps of .15, **$3.20;** #21C, ½x5", 21 steps of .15, calibrated, **$8;** #31, ½x7", 31 steps of .10, **$6.50;** #31C, ½x7", 31 steps of .10, calibrated, **$13.50;** #41, ½x8", 41 steps of .05, **$8.50;** 41C, ½x8", 41 steps of .05 calibrated, **$18. STOUFFER 21 STEP LTF SENSITIVITY GUIDES** are numbered, made in accord with specifications established by The Lithographic Technical Foundation. ½x5", numbered, **$3.20;** numbered & calibrated, **$8.** Other transparent step wedges, 31 & 41 steps, **$6.50** to **$18**

We carry a full line of step wedges and flash densities to meet all your requirements.

miscellaneous reproduction aids

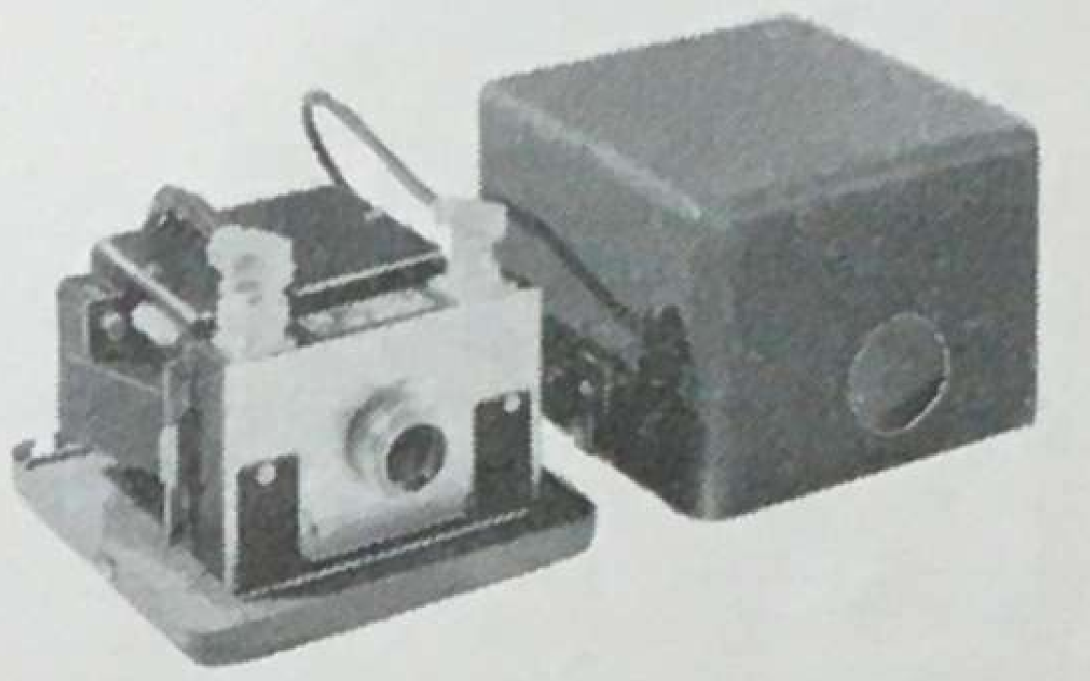
TESA LITHO BROWN TAPE is transparent so all work is visible and readable, yet is completely opaque to light. Everything masked with LITHO BROWN remains unexposed. Sticks at a touch; extra thin; no bleeding, smear or ooze. Ideal for positioning, mounting, edging, masking, stripping or paste up. 2592" long, 5 sizes—¼, ⅜, ½, ¾ & 1, per roll, **85¢** to **$2.60**

ROBERTSON PROJECTION BACKS provide big negative capacity in standard cameras. These custom made backs are adaptable to Robertson Low Bed and Overhead cameras. They increase the range, capacity and versatility yet do not interfere with the normal operation of the camera. Cameras so equipped are widely used for: Silk screen work, engineering drawings, photo murals, photo templates, mosaic map making and litho poster work. Can be designed and built to exactly meet your requirements. Why not investigate the many extra advantages a Robertson Projection Back can bring to your operations?

SPECIAL PURPOSE CAMERAS

bank camera

BEATTIE-COLEMAN'S NEW UNIVERSAL SURVEILLANCE CAMERA SYSTEM, MARK II, is based upon many years of successful BANK PROTECTION experience. Incorporating many new features, the Mark II system is readily convertible for all types of surveillance: Bank Protection; Holdup Photography; Robbery Photography; Spot Surveillance; Pilferage Photography; Check Cashing Indentification; Time and Motion Study; Data Recording; Traffic Pattern Studies and many others. Designed for long life and automatic operation. Uses economical 100' rolls of 35mm film. These give standard double-frame size negatives that make clear, sharp prints and enlargements. System is easy to install, requiring only 115VAC outlets and a simple, low voltage wiring system. May be installed either with, or independent of, any alarm or tripping system. Simple control switch permits choice of: continuous runaway at 1¼ second intervals (over 12 minutes total run); timed burst picture sequence over a period of up to 15 seconds; or single frames. Up to six "slave" cameras may also be controlled in addition to the basic camera. System is easily concealed. All cases lined with sound absorbing material to prevent attracting attention to operating camera. Tamper proof tripping circuits. Ruggedized for outdoor installation. **MODEL US-B,** basic system consists of camera w/50mm f/2.8 lens; film magazine; focusing panel; case; master control cabinet w/ 3-way control switch; tripping box with push button for manual operation plus triggering hook-up terminals, green ready light, on when unit is operable and blinks during operation; red film runout warning light, **$715. MODEL US-S,** slave unit; camera as above, magazine, focus panel, case and slave control box, **$555;** Counter, for either of above, **$35.**



micro equipment

NIKON MICROFLEX UNIT is an attachment for taking photographs through a microscope, features a swing-away prism and cocking type shutter, with speeds from 1 second to 1/200th. One cable release automatically moves the prism and trips the shutter. Equipped with high speed, 10x focusing magnifier, interchangeable with a fine grain ground glass screen available for observation by groups. Can be used with Nikon, Contax, Leica or Canon, with adapter. Reflex Micro Unit, with choice of interchangeable adapter, **$108;** (adapter separately, **$12.50**); Ground glass screen & Magnifier, **$16.50;** set of 3 photo micro filters, **$21**

OPPLEM MICROPHOTOGRAPHIC CAMERA fits any microscope and produces an image on 2½x3½" plates. Time and instant exposures. A lateral observation telescope is used to focus image on plate and choose field. Comes with collar fitting microscope eyepiece tube, shutter, observation telescope, plate holder, ground glass, auxiliary 6x aplanatic lens to check the focus directly on ground glass. **$140**

RAYOSCOPE MICROPROJECTOR features: cool, white light; balanced optical system; distance ocular; forced cooling; international standard microscope parts; even focus of entire field. Fully equipped, **$289.50**

identification cameras

GRAFLEX IDENTIFICATION UNIT makes 800 exposures on 100' length of 35mm film. It is compact and sturdy. **LENS:** 84mm Graflex Photorecord f/5 anastigmat in focusing mount. **SHUTTER:** #2 Heavy Duty Betax with speeds from ½ second to 1/50 plus T & B, X-synchronized. This unit features simplified camera operation, no previous knowledge of photography is necessary. Operation is semi-automatic, pushing lever forward operates the shutter, pulling it back advances the film. Includes counter-balanced camera platform, easy adjustment for varying heights of subject (using a large radius wheel), convex mirror mounted alongside the lens serves as a focal point for subject's eyes, position frame for subject, numbering device, reflector lamps which raise and lower with the camera, background screen marked in feet and inches. Price and availability on request. Camera only, but with supporting pedestal, **$345.** Reversible background screen with height chart and supporting chains, **$9.60**

PORTRAMATIC CAMERA MARK IV is completely automatic and equipped with pair of matched 10" f/6.3 Ilex Paragon Anastigmat Lenses. Taking lens is mounted in electrically actuated variable speed shutter from 1 to 1/150 sec. plus time and bulb. Ground glass focus-viewer automatically corrects for parallax. Subject Identification Unit within camera also contains exclusive Portramatic Automatic Pose Identification Device. One Automag Mark IV film magazine, size of your choice, is included plus ground glass focusing plate, power cord, shutter trigger cord, and test plug. Weight 19 lbs., **$1,395; AUTOMAG MARK IV FILM MAGAZINE MODEL 350E,** negative size 3½x4⅝, automatic motor operated 3½" film magazine for use with the Portramatic Mark IV Camera, or will fit any camera equipped with 4x5 Graflok back. Takes up to 200 exposures on 75' of heavy base film. Equipped with heavy duty motor, automatic frame counter, operating lite, anti-scratch rollers, ball bearing roller suspension, and "no-drag" back-up plate. Weight 8½ lbs., **$299.50; AUTOMAG MARK IV FILM MAGAZINE MODEL 70E,** same as above except negative size 2¾x3½"—uses standard unperforated 70mm film regular or heavy base, on either darkroom or daylight loading spools, **$299.50. AUTOMAG MARK IV MODEL 357E,** same as MODEL 350E above except will make 325 negatives size 2¾x3½", on 75' of 3½" film **$299.50**

direct color

CURTIS COLOR-SCOUT 2½x3½ PRESS SPECIAL is precision, one-shot color camera designed specifically for high-speed newspaper spot news and sports photography. Camera body is heat-treated magnesium, weighs 4 lbs. 11 oz. Maximum shutter speed: 1/400 sec. Interchangeable 90mm, 135mm and 10" telephoto lenses. Camera with lenses, shade and filter holder, set of color balance filter, carrying case, set of film pack magazines, **$1,557.90.** Outfit with 135mm lens only, **$1,021.30.** With 90mm lens only, **$1,185.80**

CURTIS COLOR-SCOUT 4x5 DIRECT COLOR CAMERA uses ordinary panchromatic film and makes 3 balanced color separation negatives directly with a single exposure. **LENSES:** Interchangeable 135 mm and 8¼" in shutter with maximum speed of 1/400 sec. Coupled rangefinder, sports viewfinder. Complete outfit with 8¼" lens, lens shade and filter holder, set of 6 color balance filters, carrying case, set of film pack magazines, **$1,042.** Outfit, as above, with 133mm lens, **$1,517**

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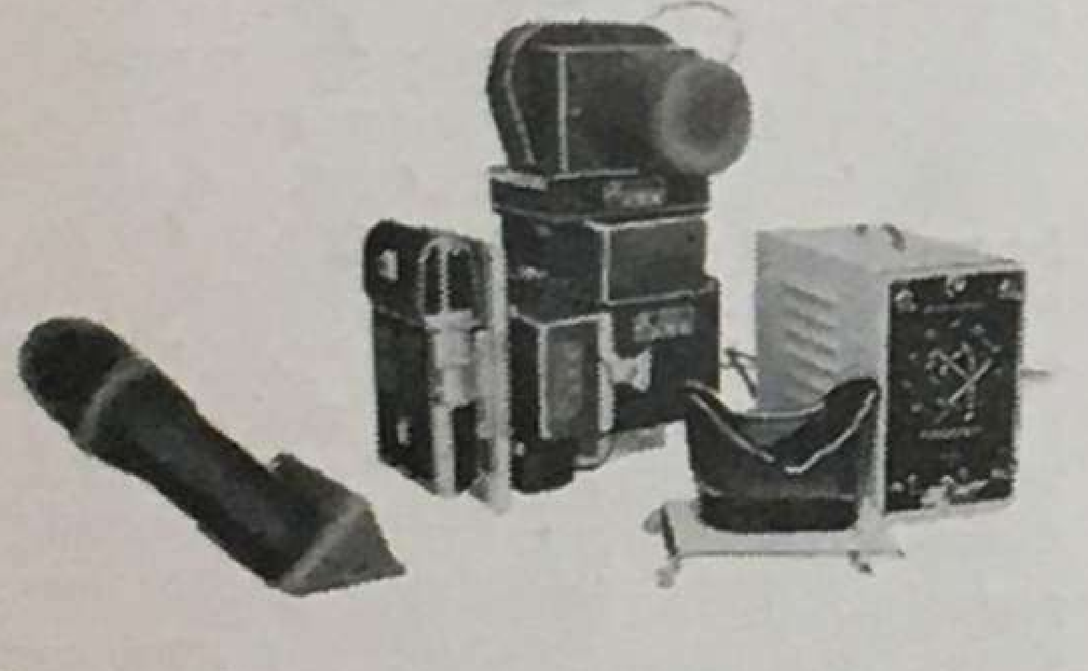
oscillographic cameras

BEATTIE-COLEMAN OSCILLOSCOPE RECORDING CAMERA. "Beattie Oscillotron" features Polaroid Land back providing 60 sec. prints or transparencies. Attaches to any 5" Oscilloscope. It swings out and lifts off for easy accessibility. Wollensak 75mm f/1.9 standard or flat-field lenses are standard equipment. Of modular design it can be quickly converted to record a wide range of object-to-image ratios.



Accessories include: binocular viewing hood, 35mm pulse camera, 35mm continuous motion magazine, data chamber with watch, platen and counter. Prices on request.

BEATTIE DIRECT VIEW OSCILLOTRON is most versatile and convenient means yet devised to record CRT phenomena. Attaches easily to standard 5" scope bezel by means of new light-sealed split clamp ring and requires no external support. Large molded viewing hood permits binocular viewing with glasses. Direct view, non-reversed CRT image. Swing out camera mount for easy access to lens and shutter. Up to 10 multiple exposures on one frame, ratio 1:0.7, also available with single frame adapter giving ratio of 1:0.9 in lieu of multiple exposures, w/large Polaroid Land back, 75 mm f/1.9 Wollensak Oscillo Amaton in Alphax 1 to 1/100 plus T & B shutter, **$405;** with Wollensak Oscillo Raptar, **$445**

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rapid sequence & recording cameras

BEATTIE-COLEMAN VARITRON MODEL D is the automatic, electric sequence camera that has become the standard in industry for rugged reliability. Solid (no bellows) camera with recessed lensboard permits front mounting where desired. Can use flat lensboard with proper focal length lenses. Uses same basic shutters and same magazines and counters as the Model E. Models described below come with: Camera body and electrical loom assembly; camera back with slide; one film magazine; lensboard with Exakta type mount and electric shutter; 50 mm f/2.8 lens in focusing barrel; focusing view slide; cables and instructions. Model VDT, 115V, 50-60cycle AC, 1/35 sec. Trip Shutter, **$540;** Model VDH, as above, but with holding shutter, **$540;** Model VDT-28, same as VDT but for 28V DC, **$937.50;** Model VDH-28, same as VDH but for 28V DC, **$937.50**

GRAPHIC "70" originally designed as a military combat camera, has unique features that make it ideal for news, magazine, industrial and commercial photography. Has highest resolving power. Big negatives proportionate to standard print sizes; special interchangeable lenses with highest degree of correction. Uses 70mm double perforated film in loaded or "bulk-loaded" cassettes. Produces 50 exposures 56x72mm (about 2-3/16x2¾"). Cassettes have self-threading cores. Film types currently available include fine grain pan, fast pan, infra-red and color. Elimination of backing paper, and an accurately machined film channel makes possible extreme accuracy of film register at the focal plane. Film transport is spring wound (10 shots per winding) and coupled to shutter mechanism permitting pictures in rapid succession, more than 8 shots in 5 seconds, if needed. Highly accurate coincidence-type rangefinder combined with variable magnification optical viewfinder with automatic parallax compensation. SHUTTER: Highly efficent focal plane self capping type with nine speeds from 1 second to 1/500 plus T and B. Built-in flash with provision for zero and 20 millisecond delay. Camera body is die-cast; light weight magnesium alloy; measures 9¼" long, 4⅞" high, 2½" deep; weight is 5 lbs. Outfit consisting of Graphic "70" Camera with carrying strap and two film cassettes; 4" Kodak Ektar f/2.8 lens in focusing mount; five filters; 6 extra film cassettes; B-C flash unit; cable releases; 6 caption slates, aluminum combination case and instruction manual, **$1,850.** 8" Kodak Ektar f/4 long focus lens in focusing mount, **$550.** 2½" Kodak Ektar f/4.5 wide-angle lens in focusing mount, **$920**

PACIFIC LABORATORIES MODEL V10 35 MM DATA RECORDING CAMERA is remote controlled with built-in electronic cycling. Has control and pulse circuits for radar scope recording, guidance systems control recording, programmed sequence shots and many other laboratory and field applications. Std. shutter speed, 1/64 sec. Available speeds from 1/32 to 1/1000 sec. Uses precision color corrected lenses from 21 mm to 400 mm. Detachable externally mounted magazines for 100, 200, 400 or 1000′ capacity. 20-30 VDC @ 4 amps. max. Camera, less lens and magazine, **$1495.00.** Accessories: Lenses, from **$82.50;** magazines, **$125.00** to **$220.00;** Reflex focusing and frame box, **$95.00;** 5x magnifying eye piece, **$20.00;** Intervalometers, **$100.00** to **$495.00;** Power packs, **$125.00** to **$250.00**

SOLAR PORTABLE 2¼x3¼" CAMERA is a self-contained same-size picture recording camera with built-in illuminating system, optics, shutter and hooded screen. Excellent for meter readings, card data, industrial uses, etc. Simple to operate . . . set adjustable shutter and iris, insert film holder, draw safety slide, place entire camera over field to be photographed, and press button. **LENS:** 72mm coated anastigmat. **SHUTTER:** 6 speeds, B. Microswitch interlocked with shutter turns light on and off when shutter button is pressed. Power is supplied from 8 standard flashlight batteries. With carrying care, 8 batteries, 8 GE #435 lamps, six metal film holders, dust brush, lens tissue, **$177.50**

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polaroid camera backs

GRAPHIC POLAROID BACK (for 4x5 Graflok Back on Crown or Super Graphics only). Adds picture-in-a-minute versatility to Graphic Camera. Takes but a few seconds to attach; dark slide permits removal for conventional camera use. **$83.50.** FOCUSING PANEL for Polaroid Back, necessary accessory when using Polaroid Back for ground glass focusing and composition, $13.95

SLIDING CARRIAGES WITH POLAROID CAMERA BACK permit making picture-in-a-minute prints with 5x7" and 8x10" view cameras. Made of sturdy wood and metal, each unit comprises permanent built-in Polaroid Land camera back, standard ruled ground glass with 4-sided focusing hood; also accepts regular 5x7" cut film holders and filmpack. Permits taking 3¼x4¼" Polaroid prints as well as shots on one half of standard 5x7 film. For Rembrandt, Watson, B&J View, Ansco, Eastman 2-D 5x7" cameras, **$169.50.** For Kodak View, Empire View, Folmer View, Watson, Grover, Burke & James, Ansco, Rembrandt, Korona, Century and Master Studio 8x10" cameras. **$189.50**

SOLAR CAMERA with Polaroid Camera Back provides picture-in-a-minute shots of specimens, test data, parts and small sub-assemblies. Consists of lens retainer, adjustable bellows and sliding back (including Polaroid unit); permits hooded ground-glass focusing, use of standard 4x5 cutfilm holders. By sliding carriage to left a 3¼x4¼" Polaroid Land Camera Back is ready for use. Entire unit is mounted on sturdy arm which is counterbalanced and rides on a 1¾" diameter column mounted on a 7-ply hardwood baseboard. Lens retainer accepts Leica lenses or front boards 2¼" or 4" square, also microscope adapters. Less lens, **$295.** Double lamp illuminator for copying **$24.95.** Microscope adapter with shutter to fit 1" diameter microgauge tube, **$29.50;** to fit 1⅛" diameter microgauge tube, **$29.50.** Double cut film holder, 4x5", each, **$4.50**

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fingerprint camera

WATSON-HOLMES FINGERPRINT CAMERA —Model II is designed to meet the law-enforcement needs. Uses 2¼x3¼" film holders or pack. **LENS:** anastigmat f/4.5 coated, click diaphragm control with 7 openings to f/22. **SHUTTER:** 4 speeds, 1/25 to 1/150, B. Takes standard flash batteries size D; uses standard #435 G-E lamps; diffusion plates for uniform illumination; weighs only 4 lbs., 12 oz. With 8 batteries, four lamps, carrying case, six metal film holders, dust brush, lens tissues. **$177.50.** Camera only, **$135**

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panoram camera

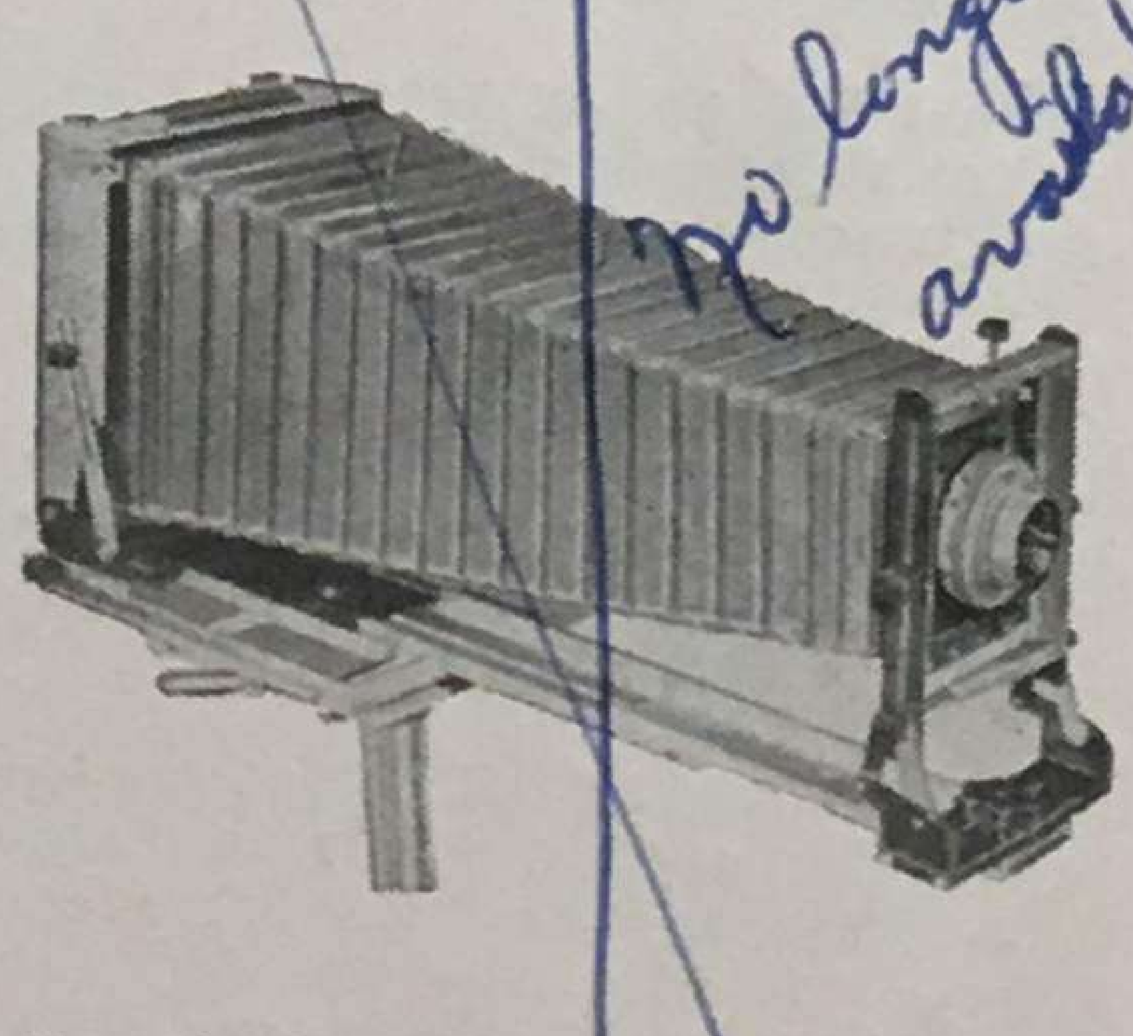
B&J PANORAM 120 CAMERAS use standard 120 film, cover a wide angle of view without distortion common to circuit cameras. Light, compact, excellent for convention, sports, indoor and outdoor shots. Take 4 exposures, 7x2¼", on a roll. **LENS:** 5" f/4 Ross in non-focusing mount. **SHUTTER:** louver type, 1 speed, 1/100 sec. only. Weighs only 9 lbs. Comes with 2 detachable magazines and detachable ground glass. **PANORAM MARK I,** with lens, **$169.50. PANORAM MARK II,** similar but with same lens in focusing mount and shutter synchronized for electronic flash, **$199.50.** Extra magazines, **$19;** fibre carrying case, **$15**

PROFESSIONAL CAMERAS

view & portrait cameras

KODAK MASTER CAMERA, 8x10", features rugged all-metal construction. Primarily aluminum and brass, unit is light and rigid. Back is reversible.

no longer available



Ground glass is etched to indicate 4x5" and 5x7" film sizes and has clear diagonal corner lines which are used to check cut-off. Back and front have tilting adjustment for forward and backward motion up to 30°. Front has horizontal swing of 20° right or left; back has horizontal swing of 12° right or left. Rising-falling adjustments on camera front provide 4" rise or 2¼" fall. Vernier screw on front for fine adjustment. Entire front assembly can be moved laterally 2¼" in either direction and locked in any intermediate position 28" maximum bellows extension; 2" minimum. Interchangeable metal lensboards. Camera folds compactly even when fitted with 12" Kodak Ektar f/6.3 lens. Camera only, **$425.** Case, **$25.** 5x7" reducing back, **$52.50.** Lenses in Ilex Synchro shutters; 190mm Kodak Wide field Ektar, f/6.3, **$235;** 250mm Wide Field Ektar, f/6.3, **$250;** 12" Kodak Commercial Ektar, f/6.3 in Synchro shutter, **$250**

DEARDORFF COMMERCIAL SERIES PRECISION CAMERAS are extra large, rigid cameras made of the same high quality materials used in the Precision View Cameras. Extra long bellows extensions permit the use of extra long focus lenses for greatest possible image, perspective, distortion, and depth of field control. Front and back vertical swings, 30° each side of center; Horizontal swings, 20° each side of center; Front cam rise, fall or slide 3" from center. 8x8" lens boards. Model 8x10 features: two-section bed; 50" bellows extension; accepts lenses from 12" focal length; built-in revolving adapter, **$795.00;** Model 11x14 features: three-section bed; 75" bellows extension; accepts lenses from 12" focal length; with 11x14 reversible back, **$920.00;** with revolving adapter and 8x10 back, **$1,032.00.** Full line of accessories available.

DEARDORFF COMMERCIAL SERIES BACKS & ADAPTERS—BACKS: For Commercial 8x10 camera; to fit revolving adapter; 4x5, 5x7 or 8x10 ea., **$42;** 4x5 Graflok, **$52;** For Commercial 11x14 camera; Adapter, **$145;** 4x5, 5x7 or 8x10 backs to fit adapter, ea., **$42;** 4x5 Graflok, **$52**

DEARDORFF PORTRAIT SERIES 8x10 STUDIO CAMERA permits the greatest possible image and depth of field control at the largest possible taking aperture. Front and back vertical swings, 20° each side of center; horizontal swings, 15° each side of center. Revolving adapter back revolves 360° without cut-off; accepts all camera back sizes from 8x10 to 4x5, including Split Sliding Carriage. Front Convertible Adapter may be inserted in either normal or extended position. Extends up to 27″; accepts lenses from 10″ up. Full line of accessories available. Camera with Lens Board, Revolving Adapter and one back, **$560.00;** with 4¼″ Packard #6 Synchro shutter, **$65.00;** with Ilexpo FS Synchro Shutter and 9x9″ Front Convertible Adapter, **$656.50;** Split Sliding Carriage (2 on 5x7), **$67.00**

DEARDORFF PRECISION PORTRAIT CAMERA BACKS: 4x5, 5x7, 8x10 to fit revolving adapter, ea., **$42;** 4x5 Graflok, **$52;** Split Sliding Carriage, 2 on 5x7, **$67**

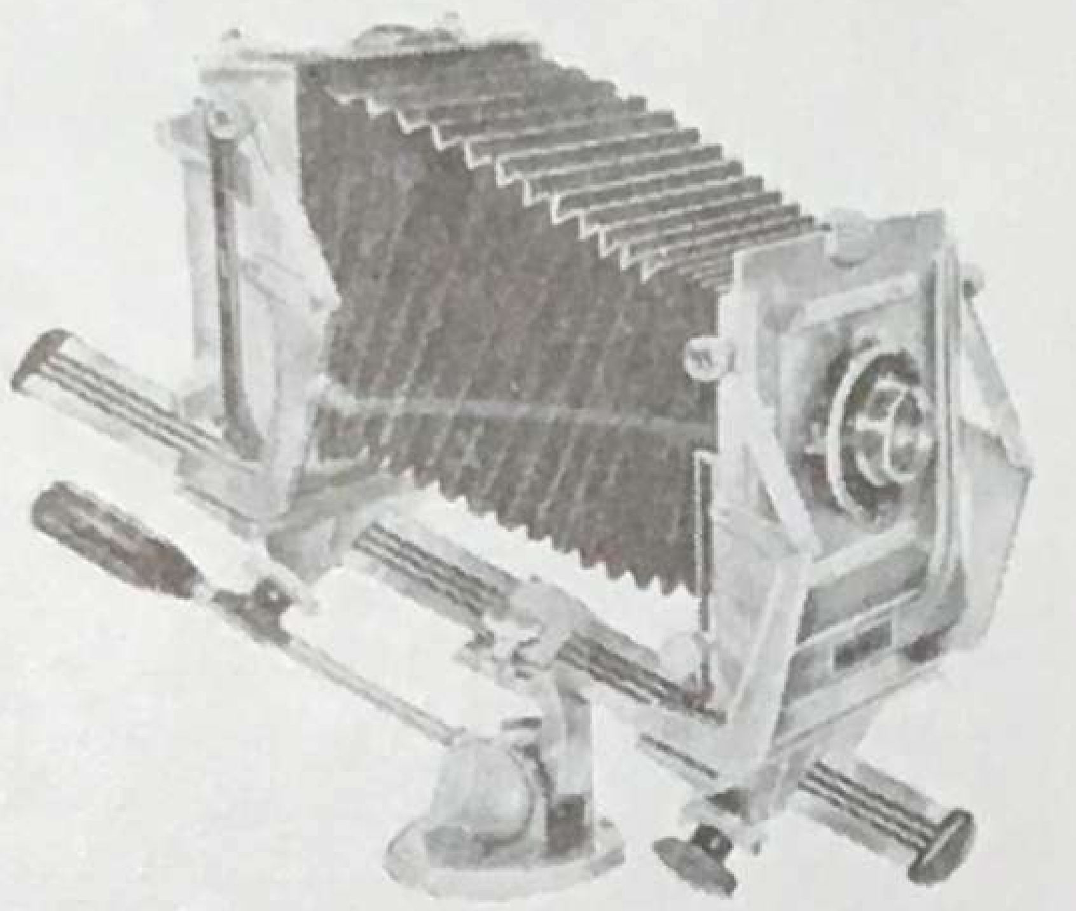
DEARDORFF PRECISION VIEW CAMERAS are compact, light and versatile cameras that feature four section tongue and groove construction—grain runs in two directions. Box and back have interlocking, metal reinforced corners. Lens boards and backs are square and reversible all the way around. Backs supplied with cut-out boards. Front and rear turntables and the front standards are made of heavy stainless steel. Front and back vertical swing, 30° each side of center; lateral swing, 20° each side of center also 4x5 & 5x7 models have: 24″ bellows extension, front rise and fall of 4¾″, accept lenses from 3½″ focal length; weigh only 5½ lbs., less lens, ea. **$275.** 8x10 model has: 30″ bellows extension, front rise and fall of 6½″, accepts lenses from 4″ focal length, weighs only 12½ lbs., less lens, **$385.** Full line of reversible backs, revolving backs, split sliding carriages, lens boards, cases and stands available.

DEARDORFF PRECISION VIEW CAMERA BACKS—Reversible; 4x5, 5x7, 5x7 to 4x5, ea., **$40;** 8x10, 8x10 to 5x7, 8x10 to 4x5, ea., **$42;** 4x5 to 3¼x4¼, (Graflok), 5x7 to 4x5 and 5x7 to 3¼x4¼, (Graflok), ea., **$50;** 8x10 to 4x5 (Graflok), **$52. REVOLVING:** 4x5, 5x7 to 4x5, ea., **$65;** 8x10 to 5x7, 8x10 to 4x5, ea., **$73;** Graflok fittings; 4x5 to 3¼x4¼, 5x7 to 3¼x4¼, ea., **$75;** 8x10 to 4x5, **$83. SPLIT SLIDING CARRIAGE:** For 2 up 5x7; 5x7, **$56;** 8x10, **$67**

DEARDORFF PRECISION ERC CAMERA BACKS AND ADAPTERS—BACKS: Reversible, reducing; 14x14 to 11x14, **$75;** 17x17 to 11x14, **$90.** Revolving adapters; 14x14, **$145;** 17x17, **$157;** 4x5, 5x7, 8x10 back to fit adapters, ea., **$42;** 4x5 Graflok, **$52. STAY FLAT** w/focusing panel: 14x14, **$99;** 17x17, **$110; STAY-FLAT** double holder; 14x14, **$133;** 17x17, **$145**

KEITH 5x7 HOME PORTRAIT CAMERA made of natural finished Canadian hard rock maple. One piece base. Will accept all Keith 5x7 backs and accessories. Price includes lensboard; back not included. Front focus model has extra rigid back designed to support roll film backs with greatest stability. Eliminates all wear and tear on the gears because weight is carried by the solid back. Either front or rear focus model, ea., **$79.50**

GRAPHIC VIEW II is a studio camera which provides identical swings, shifts and tilts on both front and back of 4x5″ Graflok backs with Ektalite field lens; interchangeable lensboards. 16″ bellows-draw; adjustments are made on optical axis. V-section aluminum bed; camera bed combines with pan-tilt tripod head. Spirit level; track locks. Accepts all standard accessories. With Graflex back plus case, less lens **$225.**

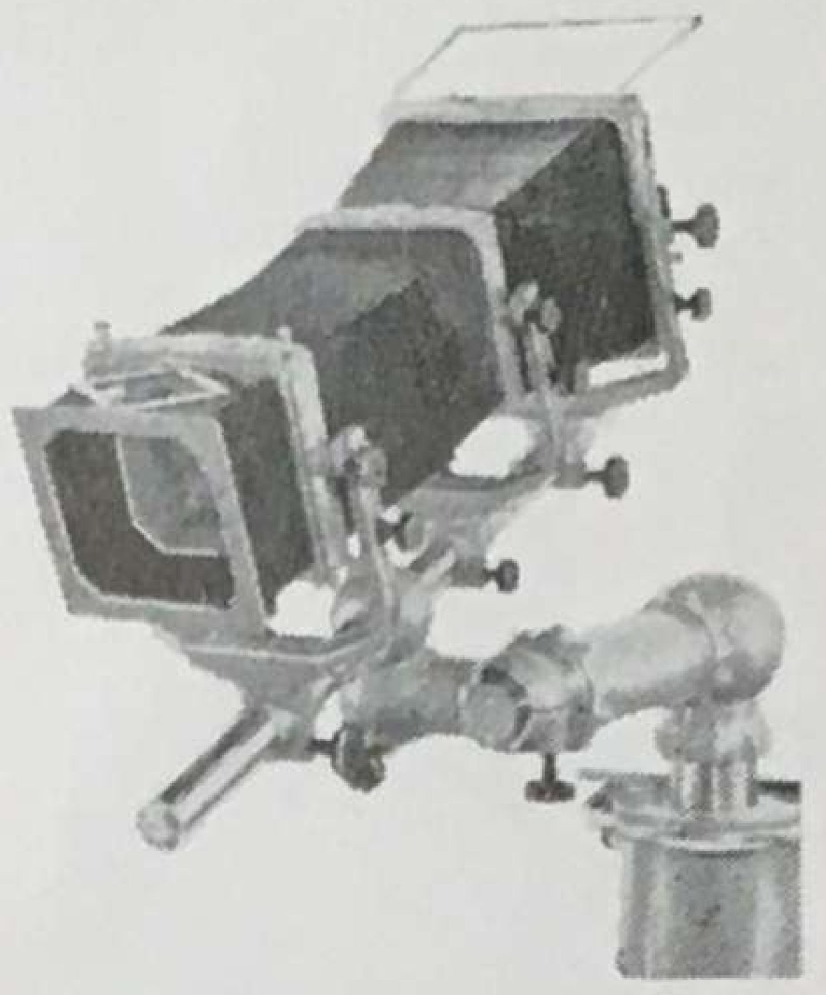


With Graflok back, less lens **$225.** (See Speed Graphic for list of accessories.)

KEITH TWIN LENS CAMERAS come in 35 or 70mm and are available with or without negative numbering device that photographs a number or name on bottom of negative. # device is either battery or AC operated. Cameras have aluminum body with black crackle finish. Lenses are matched to focal length, with parallax correction coupled to focus. Taking lens in single action (self-cocking), heavy duty synch shutter, suitable for electronic flash. Cameras w/o # devices accept both 35 & 70mm magazines. Cameras with 70mm numbering devices will accept 35mm magazines but # device will not work with 35mm film. Cameras with 35mm # devices will not accept 70mm magazines. Magazines not included in prices. **KEITH CAMERAS** w/o # device, with choice of lenses from 4″ f/4.5 to 7½″ f/4.5, **$360 to $510. KEITH CAMERAS** w/# device (specify batt. or AC oper.): 35mm; 4″ f/4.5 to 6⅜″ f/4.5, **$400 to $475;** 70mm; 6⅜″ f/6.3 to 7½″ f/4.5, **$400 to $550**

LINHOF-COLOR 4x5 MONORAIL CAMERA, built on optical bench principle, provides minimum and maximum bellows extension for lenses from 53mm to 360mm focal length. Front and revolving back have tilts and swings in all directions; lens standard also has lateral shift, rising and falling movement. Linhof Universal Back with Kodak Ektalite field lens accepts all standard 4x5 holders, film magazines, Polaroid Back, and Rollex rollfilm adapters. Rack and pinion focusing with camera back. **$279.50.** Complete camera-and-lens outfits from **$389.** Accessory Multifocus Viewfinder, **$89.95. LINHOF-COLOR 2¼x3¼ MONORAIL CAMERA.** Similar to 4x5 model, but with revolving 2¼x3¼″ back. **$259.50**

LINHOF KARDAN-COLOR CAMERAS offer unlimited adjustments of lens and film plane in every direction to correct perspective, distortion, or to introduce special effects intentionally. Interchangeable (add-a-unit) components permit complete adaptability to any photographic problem. Revolving backs, reducing frames, and other accessories make these cameras the ideal choice for the industrial or commercial photographer who needs to cope with a wide variety of photographic tasks.



5x7 Kardan-Color Duplex (24 inch monorail) **$330;** 8x10 Kardan-Color Duplex (24 inch monorail) **$495.** Triplex conversion unit to extend either model to 40 inches; consists of 40″ monorail, additional bellows and center support frame, **$125**

LINHOF-COLOR 4x5 VIEW CAMERA is designed for the commercial, technical, architectural or portrait photographer. Built on the optical bench principle, this sturdy monorail camera is outstanding in special fields such as photomicrography, macrophotography, copying and enlarging. Incorporating the same front and back components as the SuperTechnika IV, it corrects perspective and distortion by means of its versatile lens standard that can rise, fall, tilt, swing and shift. Revolving back has Kodak Ektalith field lens for extra bright ground glass image. Accepting all standard 4x5 accessories plus 2¼x3¼″ reducing back, its 17″ bellows extension permits use of lenses from 65 mm to 360 mm; 53 mm Zeiss Biogon may be used with 2¼x3¼″ adapter. Lenses interchange with Super Technika IV. Rack & pinion critical focusing with the heaviest lenses. Less lenses **$249.50**

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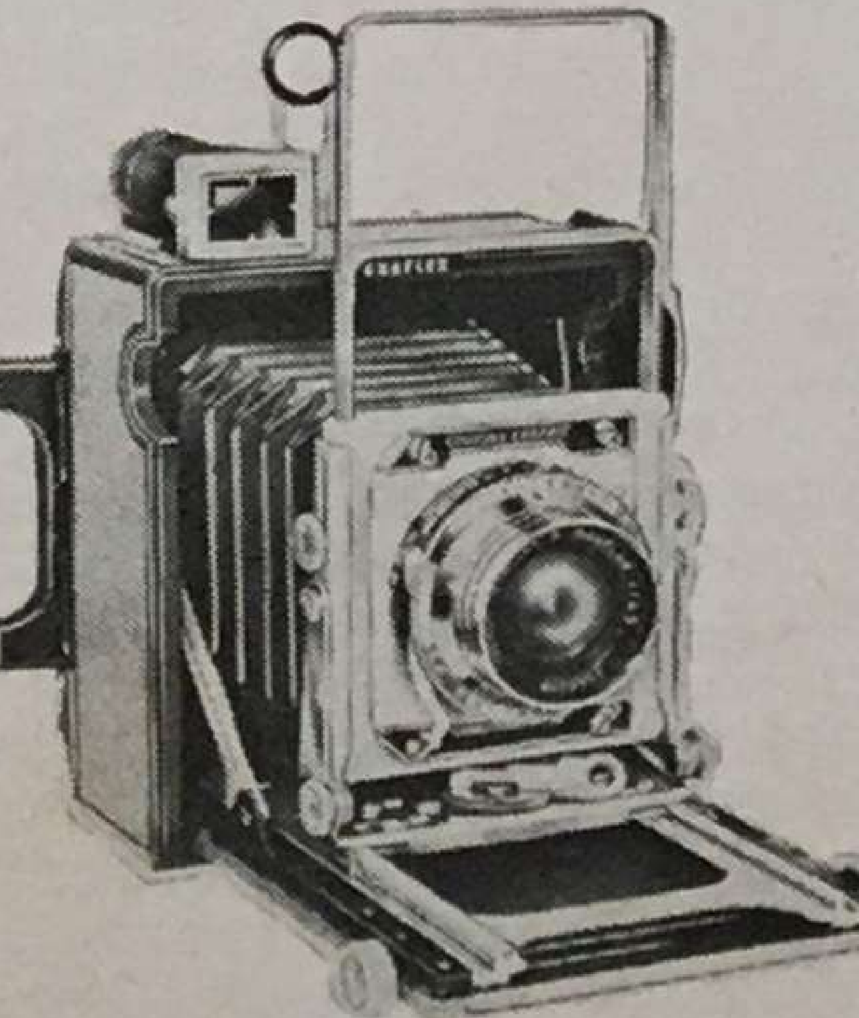
press cameras

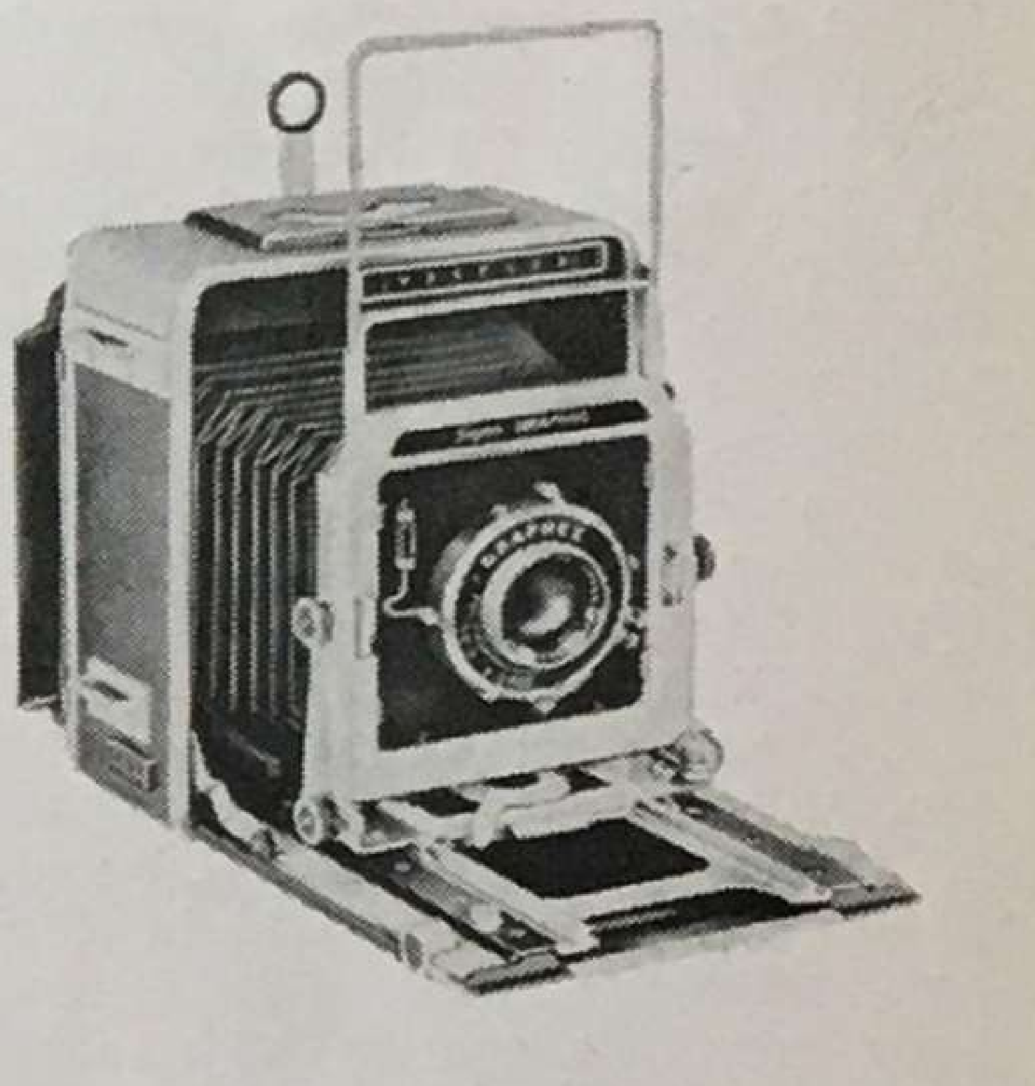
CENTURY GRAPHIC 23 is lightweight, compact, economical. Includes every feature of the famous Pacemaker Graphic 45. Wide variety of lenses from wide angle to normal to telephoto . . . interchangeable in seconds.



Focus by ground glass, vernier scale or with accessory Kalart Rangefinder.

Double extension bellows permits full size (1:1 ratio) closeups with no extra attachments required. Graflok Back accepts all Graphic accessories for fast, easy use. Accepts sheet film holders, roll holders, Grafmatic Magazines, Film Pack Adapters or plate holders for maximum film versatility. The rising, shifting, tilting front standard permits "view camera control" of perspective and distortion. Equipped with two types of viewfinders: optical and open frame. New 101mm Graflar f/4.5 lens mounted in Prontor SVS Shutter, features synchronization for Class "M" and Class "X" at all speeds—Shutter speeds, 1 sec. to 1/300 plus B. Has built-in self timer and EVS coupling. Diaphragm and shutter may be set independently if desired. May be solenoid synchronized. With 101 mm Graflar f/4.5 lens, **$164.95**

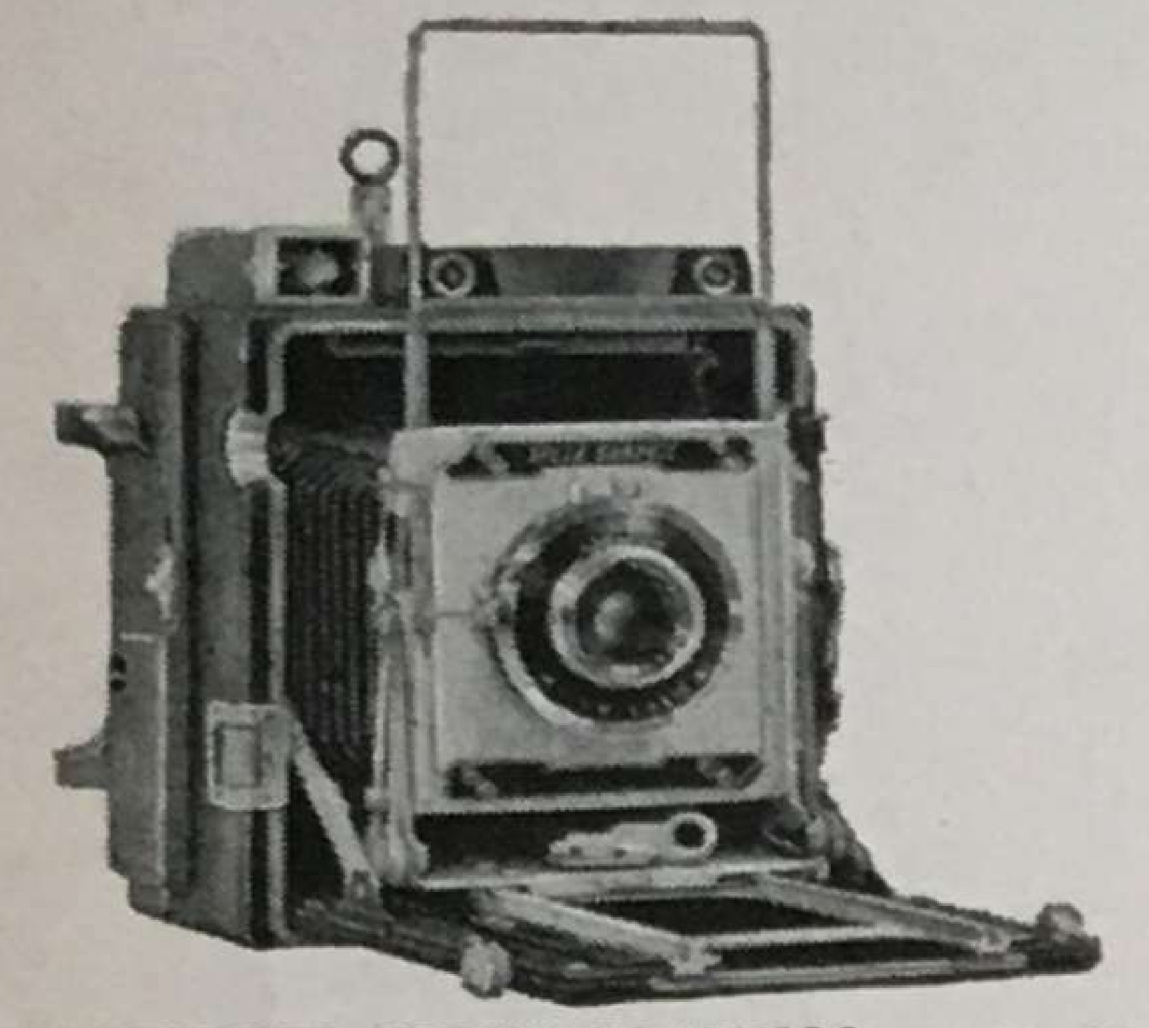
SUPER GRAPHIC 45 is smaller than previous models; completely modern, styled in two-tone gray and black with aluminum trim. Designed for convenience in handling, all locks and releases are readily accessible; swings, tilts and shifts have "click-stop" neutral position. Has revolving back, electronic back, electronic shutter and flash tripping release; full tilt-swing-rise-shift front movements, built-in flash exposure computer. Automatic focusing scale located on top of camera for easy reading. All flash connections internally wired to eliminate dangling cords. Spring loaded focusing track for stability; new removable focusing hood; dark slide holding clip; larger, easier-to-handle rangefinder cams; extra-wide focusing knobs, plus numerous other new features. High-precision built-in rangefinder works with all lenses from extreme wide-angle to telephoto by means of interchangeable cams, which can also operate the focusing scale indicator and automatic flash computer scale. Accepts all Pacemaker accessories. With 127mm (5″) Kodak Ektar f/4.7 lens in Graphic Synchro Compur shutter, **$389;** with 135mm (5¼″) Graflex Optar f/4.7 lens in No. 2 Graphex full sync shutter, **$399;** with 135mm (5¼″) Graflex Optar f/4.7 lens in No. 2 Graphex-X shutter, **$381.50;** with 162mm (6⅜″) Graflex Optar f/4.5 lens in No. 3 Graphex sync. shutter, **$419;** with 203mm (8″) Kodak Ektar f/7.7 lens in No. 1 Graphic Synchro Compur shutter, **$399.** With customers' lens fitted on special order, **$289**



PACEMAKER SPEED GRAPHICS are time-tested press cameras that offer both focal plane and betweens-lens shutters; former provides speeds from 1/30 to 1/1000. (All shutters are synchronized.) Dual-control rack-&-pinion focusing; selector switch to set body release for front and back shutter operation; tilting front with vertical and lateral shifts; drop bed; double-extension bellows; Four-sided metal folding focusing hood is self-erecting, removable. Easily detachable handle, adjustable to fit hand. Folding infinity stops. Optical viewfinder has vertical and horizontal

continued on next page

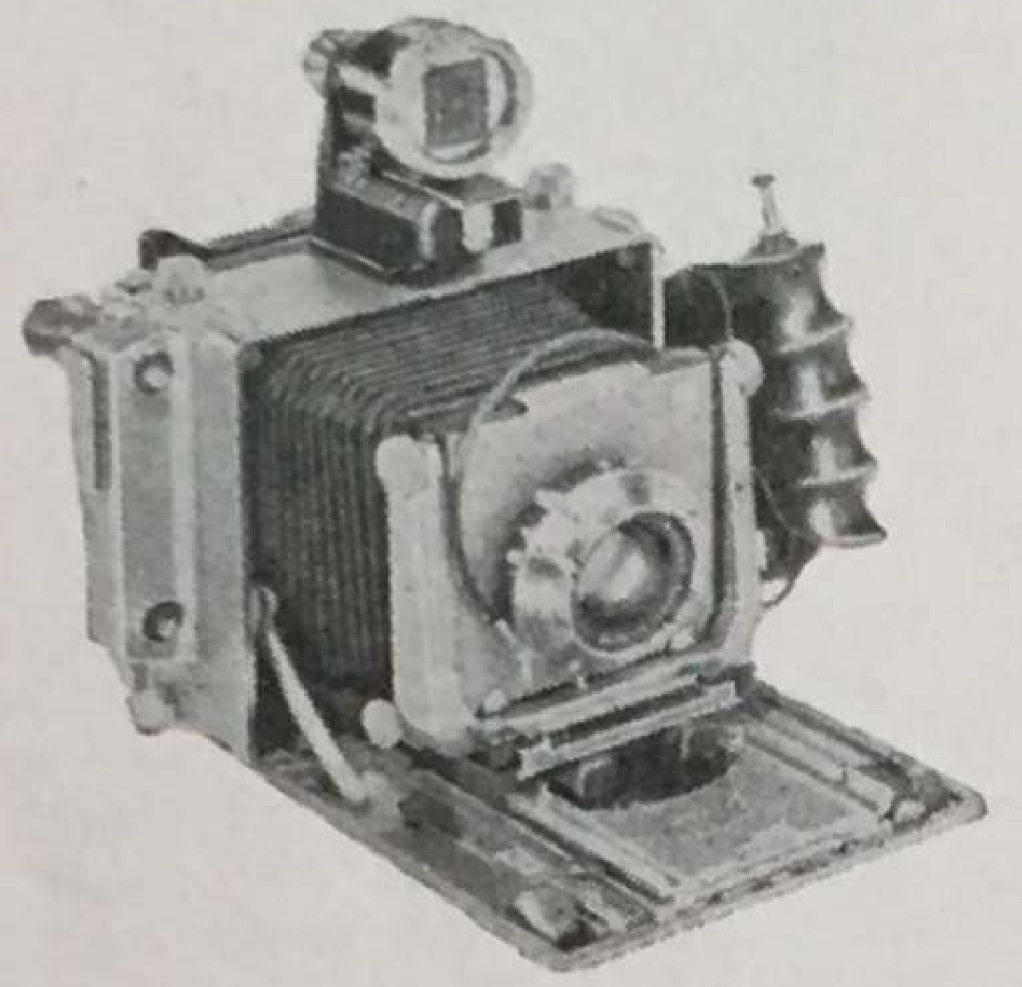
parallax correction. Direct reading of focal-plane speeds through sealed window. Flexible stainless steel open-frame sports finder with parallax adjustment. Accepts sheetfilm, film-pack or rollfilm in accessory holders or adapters; interchangeable film attachments. 4x5″ model, with 135mm Graflex Optar f/4.7 in #2 Graphex shutter, speeds from 1 to 1/400 T&B, X synch **$330.50;** available also in other lens and shutter combinations.



PACEMAKER CROWN GRAPHICS, same as Speed Graphics, but without focal plane shutter. 4x5″ model, with 135mm Graflex Optar f/4.7 in #2 Graphex shutter, speeds from 1 to 1/400 T&B, X synch, **$272.50;** other lens and shutter combinations available. 3¼x4¼″ model, with 135mm Graflex Optar f/4.7 in #2 Graphex shutter, speeds from 1 to 1/400. T&B X synch **$272.50;** other lens and shutter combinations available.

SUPER SPEED GRAPHIC 45 camera features the new Graflex 1000 Shutter which provides, for the first time in the big negative field, a 1/100 sec. between the lens shutter at all apertures. The 1000 Shutter has speeds from ½ to 1/1000 sec. and may be set by touch as can the click stop diaphragm scale lever. A slight rotation of the combination cocking ring—lens shade filter holder is all that is required. X synchronization is obtained at all shutter speeds including 1/1000 sec. M-type flashlamps synchronize at all shutter speeds up to and including 1/750 sec. Change from M to X synchronization is made with a simple lever movement. Shutter and diaphragm can be opened or closed for quick ground glass inspection without disturbing settings. Other Graphic 45 features: new 135mm Graflex Optar f/4.5 lens; revolving back, electric shutter release; fully tilting, swinging, rising, shifting front movements (Rise: 1⅛″ Drop Bed: 15°, Bellows extension: 12½″); easy to insert individually matched rangefinder cams; built-in flash exposure computer; sports viewfinder; spring loaded focusing track; cam coupled focusing scale; focusing hood; dark slide clip; cam-action slide locks; interchangeable internally wired lensboard, assemblies; 3-pin outlet eliminates dangling cords. Camera wt. 4¾ lbs. The Super Speed Graphic accepts all of the lens and shutter combinations as well as other accessories adaptable to the Super Graphic and Pacemaker Graphic cameras. With 135mm (5¼″) Graflex Optar f/4.5 lens in Graflex 1000 Shutter, **$449.50**

LINHOF SUPER TECHNIKA CAMERAS combine best features of press, view and miniature cameras, Multifocus rangefinder can be coupled to many different lenses. All camera movements . . . revolving, swinging, interchangeable back; rising, falling, tilting front; drop bed. All-metal construction; streamlined shape of camera body provides unusual stability. Automatic bellows-holder; triple-extension leather bellows; quick-change chrome-finished lensboard. Knobs actuate geared rising front and shifting U-shaped lens standard. Rack-and-pinion focusing. Tripod socket; focusing panel with removable hood; flashgun bracket; viewfinder with parallax compensation. 4x5″ model, with Multifocus rangefinder, sports viewfinder, blank lensboard, blank distance scale slide, blank rangefinder coupling cam, body cable release. Less lens, but with Universal back and Ektalite field lens, **$499.50.** Complete camera-and-lens outfits from **$589.45** to **$2115.95.**



2¼x3¼″ model, with built-in combined range and viewfinder, **$399.50.** Complete with 105mm f/3.5 Technika Xenar, **$487.45.** Other combinations with one to three lenses from **$669.15** to **$1405.** 5x7″ model with Multifocus rangefinder, sports viewfinder, **$550.** Complete with 210mm f/5.6 Technika Symmar in X Synchro Shutter, **$719.50 ACCESSORIES:** 2¼x2¾/ rollfilm holder, **$87.50.** Multifocus viewfinder, **$89.95.** Linhof Enlarging and Copying stand, **$149.50**

LINHOF TECHNIKA PRESS 2¼x3¼ CAMERA. Fast-Working camera with combined Multifocus Range-and-Viewfinder.

Interchangeable lenses couple automatically to Rangefinder. Revolving, swinging and tilting back permits using all types of films, plates, and roll films (with Linhof Super Rollex Adapter). Interchangeable lenses are mounted in helical focusing mount with depth of field scale. Camera supplied complete with hand-fitting Anatomical Grip and built-in shutter release; with 95mm f/2.8 Technika-Heligon lens in Compur Rapid Synchro Shutter, **$630;** with 100mm f/2.8 Carl Zeiss Planar in Special Compur Shutter (rim-winding) **$920.** Two-and-Three Lens combinations from **$1255** to **$2050**

LINHOF SUPER TECHNIKAS are 2¼x3¼″, 4x5″ or 5x7″ precision cameras for studio or hand field shooting. Featuring interchangeable, revolving, swinging and tilting backs, they permit the use of sheet film, roll film, film packs or plates. Built-in Multifocus prism rangefinder is combined with bright, optical viewfinder in a single eyepiece. Multifocus R/F couples to different lens by means of interchangeable cams. Other features include: Triple extension bellows, drop bed, tilting lens standard with rising, falling lens board. Complete with built-in spirit level and detachable anatomical hand grip. Less lenses, **SUPER TECHNIKA 23, $399.50; SUPER TECHNIKA IV, $499.50; SUPER TECHNIKA 5x7, $550.00**

LINHOF OUTFIT CASES are built especially to hold Linhof cameras, complete with extra lenses, film holders, filters, and other accessories; all equipment is carried in individual fitted compartments for utmost protection; special models available for Technika Press, Super Technika, Aero-Technika, Linhofcolor and Kardan-Color cameras of all sizes from 2¼x3¼ to 8x10; prices start at **$79.50**

CAMERA MAINTENANCE

- A properly functioning camera pays its own way for the professional. Equipment malfunction to the amateur means only a lost picture, but to the professional, it means loss of income, loss of customer good will, or placing an account in jeopardy. Consequently, for the pro to take a poor picture, is probably worse than to take none at all. And yet the difference between equipment which operates satisfactorily and that which does not is often caused by failure to perform a bit of simple preventive maintenance.
- Fortunately, professional view and press cameras do not present much of a maintenance problem—an occasional drop of oil on metal joints and a vacuum cleaning of camera interiors are about all the regular attention that is needed.
- Bellows of view and press cameras are subject to considerable flexing, and cracks or holes must occasionally be repaired. Holes, however small, should be taken care of immediately since they cause light-fogged films. It is advisable therefore to make a periodic check with the aid of a small, low-wattage lamp on an extension cord. If minor holes are discovered apply electrical tape on the inside of the bellows. For porous areas use bellows lining (rubber-coated cloth) and apply with rubber cement to the inside of the bellows.
- Film holders cause lots of trouble when not taken care of. They should be vacuum cleaned or dusted with a jet of compressed air periodically. Check them carefully for lighttightness in a darkroom with a small light or an extension cord. Leaks in bottom flap of holder can be easily repaired using hinge material. The light trap opening may be repaired if not too bad, but if leak is extensive replace the holders and avoid the risk of ruined shots.
- Refinishing camera—Keep your camera in good condition and you'll have longer and better service out of it. Touch up mirror scratches with a stain or with leather dressing. Dents in the wood can often be removed by treating with plain hot water as soon as possible after the damage.
- Care of lenses—Avoid rough handling of your equipment as you may upset the critical lens alignment. All lens surfaces should be protected from dust, dirt, fingerprints and sudden temperature changes. Don't store lenses in hot or humid places. Clean surfaces occasionally by brushing gently first with camel's hair brush and then with wadded lens tissue. If this doesn't do the trick, use a drop of Kodak lens cleaner on tissue.

TABLE OF SHUTTER SPEEDS TO STOP MOTION

Distance in Feet from subject	Approximate Focal Length—Inches 4	5	6	7	8
12	1/500	1/600	1/700	1/800	1/1000
25	1/250	1/300	1/350	1/400	1/500
50	1/125	1/150	1/170	1/200	1/250
100	1/70	1/80	1/90	1/100	1/125

These speeds are only approximate, and have been rounded off to the nearest even value. They are sufficiently accurate for all ordinary photographic purposes.

This table applies to a subject moving 10 miles per hour at right angles to the camera. For other situations, corrections are made as follows:

(a) Double the speed of the shutter (1/100 instead of 1/50) for double the speed of subject.
(b) Half the shutter speed (1/50 instead of 1/100) for half the speed of the subject.
(c) Double the shutter speed for half the distance to the subject.
(d) Half the shutter speed for double the distance to the subject.
(e) Double the shutter speed for double the focal length.
(f) Half the shutter speed for half the focal length.
(g) Use ⅓ the shutter speed if the subject is coming directly toward you or going directly away from you.
(h) Use ⅔ the shutter speed if it is coming or going at 45 degrees.

When in doubt use the next HIGHER speed.

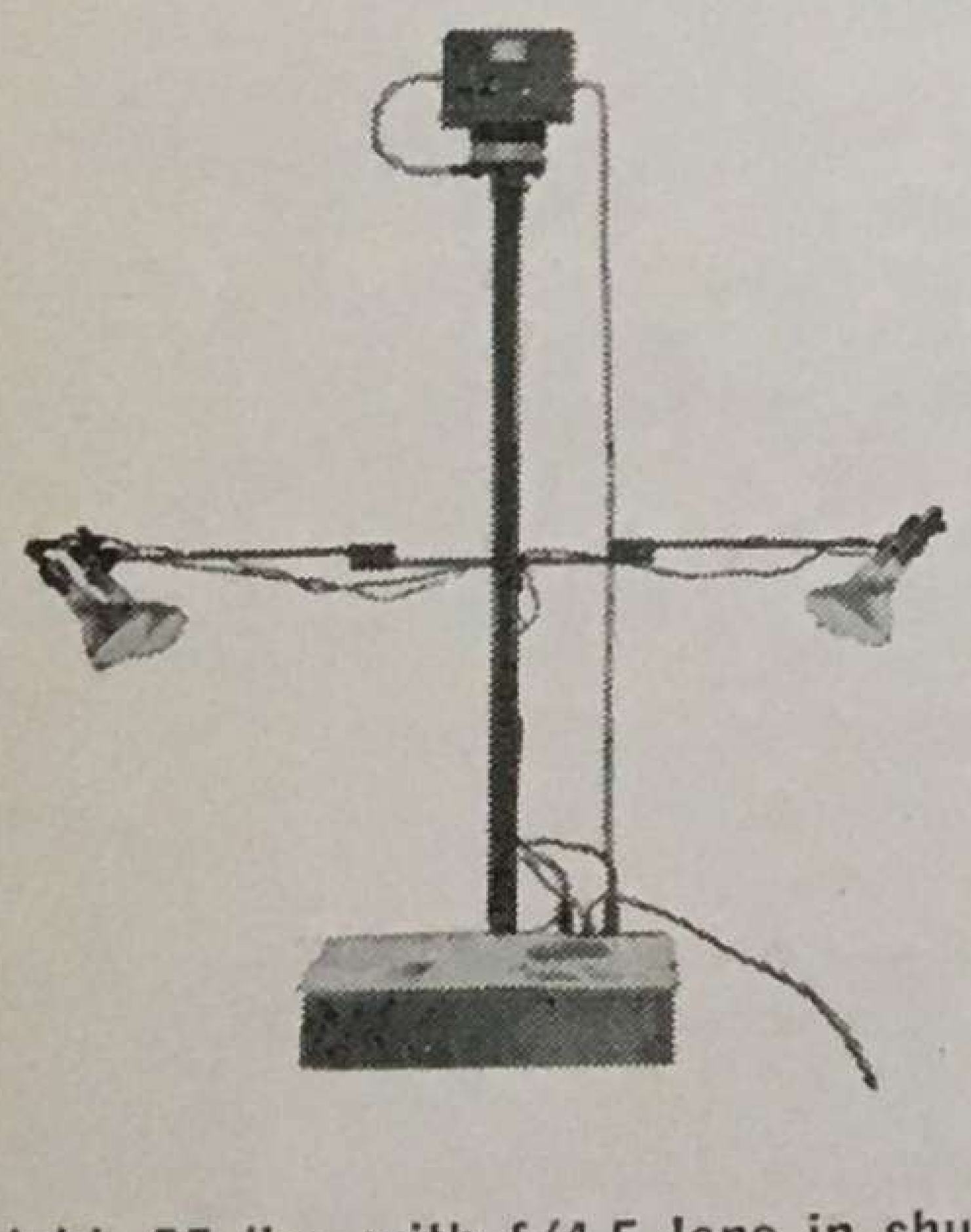
Courtesy, Photo-Lab-Index

MICROFILM EQUIPMENT

DOCUMAT MICROFILM READERS utilize 100 watt pinpoint source lamp, has simple interchangeable lens system. Magnifications available, 15x, 24x, 34½x. All models feature 11x11″ screen size; head rotates 360°. **MODEL U** accepts 16 or 35mm rollfilm or unitized film, has adjustable condenser feature for variable field illumination. **$400. MODEL D.** is as previous model but without adjustable condenser, **$375. MODEL R;** same general specifications as Model D, but takes roll film only, without card holder, **$345. MODEL F** as above but accepts jackets or aperture cards (unitized film) only, **$295.** Supplied with one lens. Additional lenses, each, **$45**

FEDERAL PORTABLE MICROFILM READER-PROJECTOR permits on-the-spot examination of microfilm. Accepts 35mm and 16mm rolls and filmstrips perforated and unperforated. 360° rotating head projects vertically or horizontally. Provides 6x to 30x magnification in ordinary room light, up to 60x in darkened rooms. **LAMP:** 150-watt pre-focused. Optical condenser system; heat absorbing filter; removable film carrier. 110-volt, 60-cycle AC-DC. Weighs 10-lbs. **$135. FEDERAL MODEL 705,** 500-watt, blower-cooled, optical condenser system; heat absorbing filters, removable film carrier, AC only, weighs 12 lbs. **$185**

GRAFLEX 35mm PHOTORECORD MICROFILM OUTFIT is a portable self-contained copying outfit. Permits reduction ratio from 1½:1 to 17:1 on baseboard. Pneumatically operated with foot-pump; automatic film transport; automatic operation of self-setting shutter. Accepts 35mm film on 100 ft. standard daylight loading spools; makes 1600 exposures ¾x1″ or 800 exposures 1½x1″. Short lengths of film can be removed for processing. Interchangeable magazines with film-counter dial; projection focusing for sharpness and to determine area to be photographed. Focusing panel registration is matched with each individual film magazine. 4 adjustable lamps with self-contained reflectors. Weight, 55 lbs. with f/4.5 lens in shutter, 100 ft. magazine, stand, base, lighting assembly, focusing lamphouse and foot pump **$695**



MICRO RECORD PROCESSING TANKS develop microfilm and movie film in daylight, light-tight tanks. Film travels back and forth on reels automatically during processing time. Reversal of the rotation of the reels is governed by 5′ of leader and 5′ of trailer. Tanks and reels are made of corrosion-resistant plastic. Only 1 gallon of solution is needed. Uses 110 volts 60 cycle AC. (Available in 220 volt and 110/220 volt models.) Weighs: 15-lbs. Model D11, capacity up to 200-ft double 8mm, 16mm or 35mm, **$159;** Model D21, up to 100-ft 70mm **$237** (Transparent tanks for reversal processing are also available at same prices.) Extra reels (16mm or 35mm) **$5.00,** per pair; 70mm **$7.50** per pair; extra tanks **$12.50;** carrying case **$10;** Plastic film tape (66′) **$1.50.** Model D31, capacity up to 400-ft double 8mm, 16mm, 35mm and 70mm, **$390**

OMEGA MICROFILM ENLARGER with high speed "Point Source of Light" is available in manual and autofocus models. Accepts 16, 35, and 70mm microfilm negatives. Wide magnification range. Can easily be converted to take all popular size microfilm negatives. Can be converted to standard photo enlarger with choice of wide range of famous Omega Accessories. Uses standard, readily available G.E. BEV bulb, 7.5 amp. 150W. Produces approximately 60 times light output of conventional condenser lamphouse system. Built-in infra-red filter prevents damaging of negative material. Easy visual focusing or reading permits examination of projected microfilm image before exposure is made. Standard OMEGWA lensmounts are used. When using the "Point Source of Light", the lens diaphragm is not used to reduce light intensity. The lens diaphragm is always set at its largest opening and kept there. Light intensity can be reduced by means of control knob on power pack. Power pack has provision for overvolting bulb to produce extra high intensity for visual focusing at high magnifications. **DM-3 AUTOFOCUS MICROFILM ENLARGER,** including 18x34x 1½″ baseboard, standard glassless carrier and red filter (less lens), **$441; DM-2 MANUAL MODEL,** including 18x34x1½″ baseboard, standard glassless carrier and red filter (less lens), **$401.50; DM-2 SPECIAL MANUAL MODEL** including 18x34x1½″ baseboard and flexible focusing shaft, standard glassless carrier and red filter (less lens), **$440 DM LAMPHOUSE AND POWER PACK** (less lens) fits all Omega D-2 and Automega D-3 Enlargers, **$225**

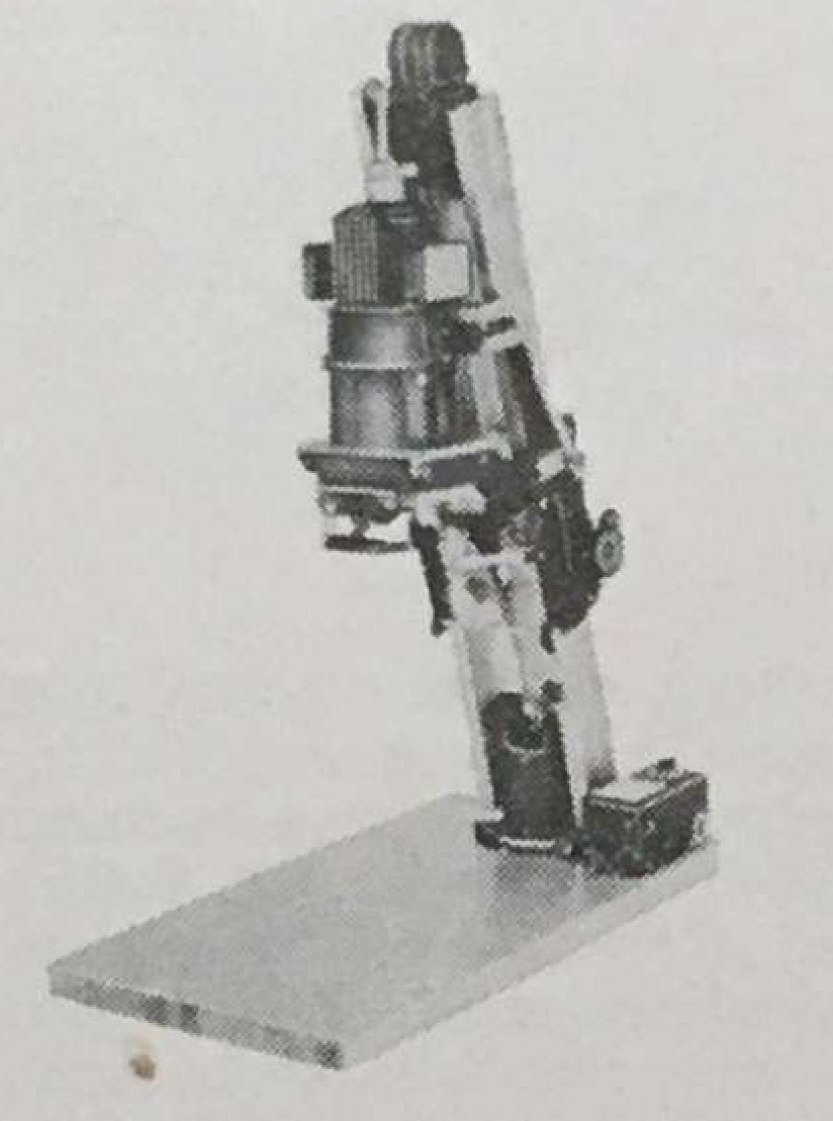


PHOTO DEVICES' PD1088 COPY CAMERA is a 70mm and/or 35mm Planetary Engineering, Reproduction Unit. Reduction ratios: 70mm: 4 to 15x; 35mm: 8 to 30x. Reduction change: by push button operated electric motor, up or down. Focus: automatic for both film sizes. Illumination: 6 projection floods or 8 slimline for overhead, 8 instant-start slimline for back illumination. Light control: variable transformer. Exposure: electrically operated shutter. Copy holder: suction operated. Loading mag.: detachable; 100′ capacity, 70mm or 35mm. Film control: film held flat by suction. 35mm or 70mm, **$5,750;** 35mm and 70mm, **$6,600**

PHOTO DEVICES PDCI MICROFILM CODER permits setting up any code consisting of any combination of 10 numbers, letters or symbols in a matter of seconds. Large 1″ characters can easily be read with the naked eye even at 30x reductions. Available with black on white or white on black characters, 16x2¼x7 5/16″, ¾″ high at windows, **$165**

PHOTO DEVICES PLANETARY 70MM AND/OR 35MM ENGINEERING REPRODUCTION CAMERA is ideal for reproduction of engineering drawings, maps, charts, etc. This precision copy camera produces negatives with maximum resolution and minimum distortion. Two models; either 70mm or 35mm, or both 70mm and 35mm, offer reduction ratios of 4x to 15x and 8x to 30x. Both film sizes feature automatic focusing and have correct calibration gauges to show reduction ratios. Simple reduction changes: push a button and the electric motor does the job, either up or down. Vacuum copy holder holds all copy, including wrinkled and folded subjects, perfectly flat during exposure. Electrically operated shutter, controlled by electronic timer to 1/10 second intervals, makes perfect exposures from 0 to 11 seconds. Six floodlamps or four slimline lamps are used for overhead lighting and eight instant-start slimlines, beneath the copy holder, back illuminate tracings and transparencies. Illumination intensity is controlled by a variable transformer operating from half to full intensity. Film capacity: 100′ in detachable loading magazine that permits instant film size changes and/or changes from black and white to color. Cutoff knife built into detachable take-up magazine enables operator to instantly remove exposed film at any point without fogging of unexposed portion. Highest quality lenses insure insure best image quality. **MODEL PD 1088A,** 35 or 70mm, **$5,750; MODEL PD 1088B,** 35 and 70mm, **$6,600; MODEL PD 1088D,** same as 1088A, for 35mm film, ceiling height, 8′6″, **$6,500; MODEL PD 1088 DX, same as 1088D,** but maximum reduction 35x, ceiling height, 9′4″, **$7,750**

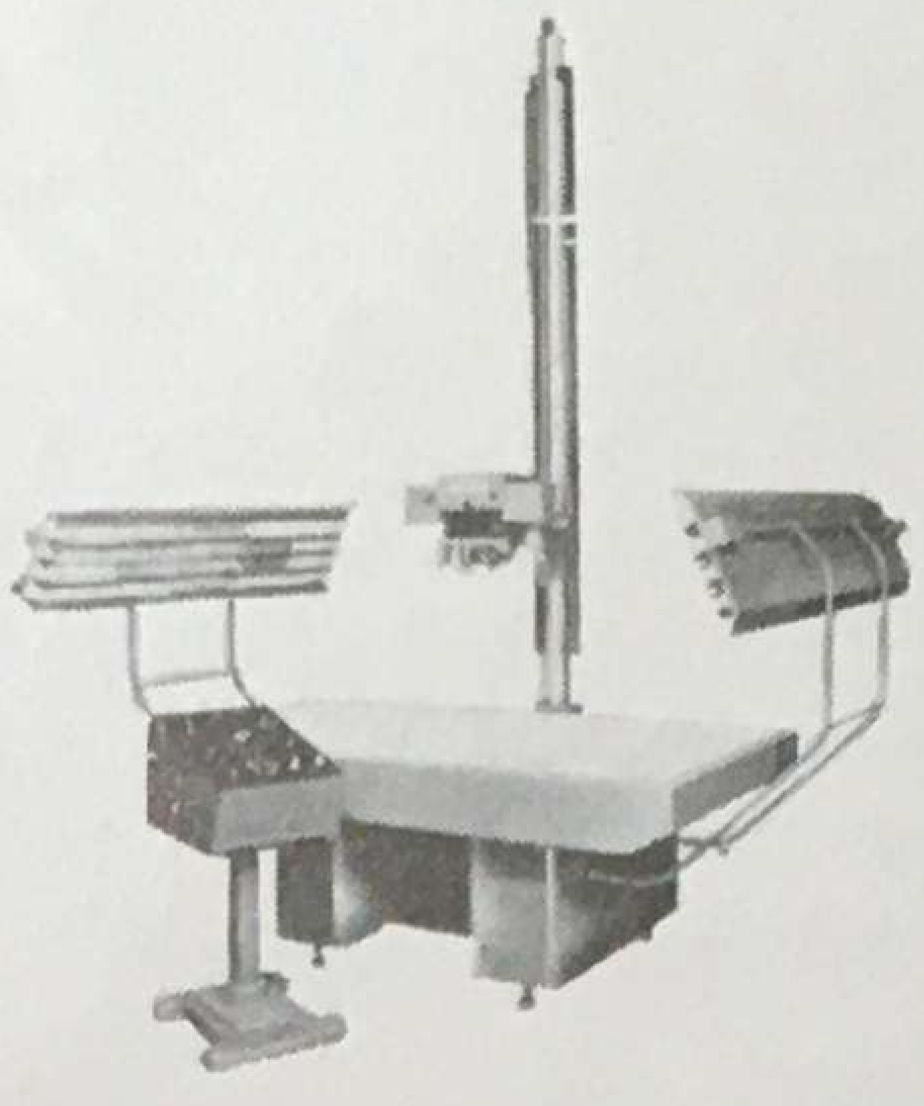


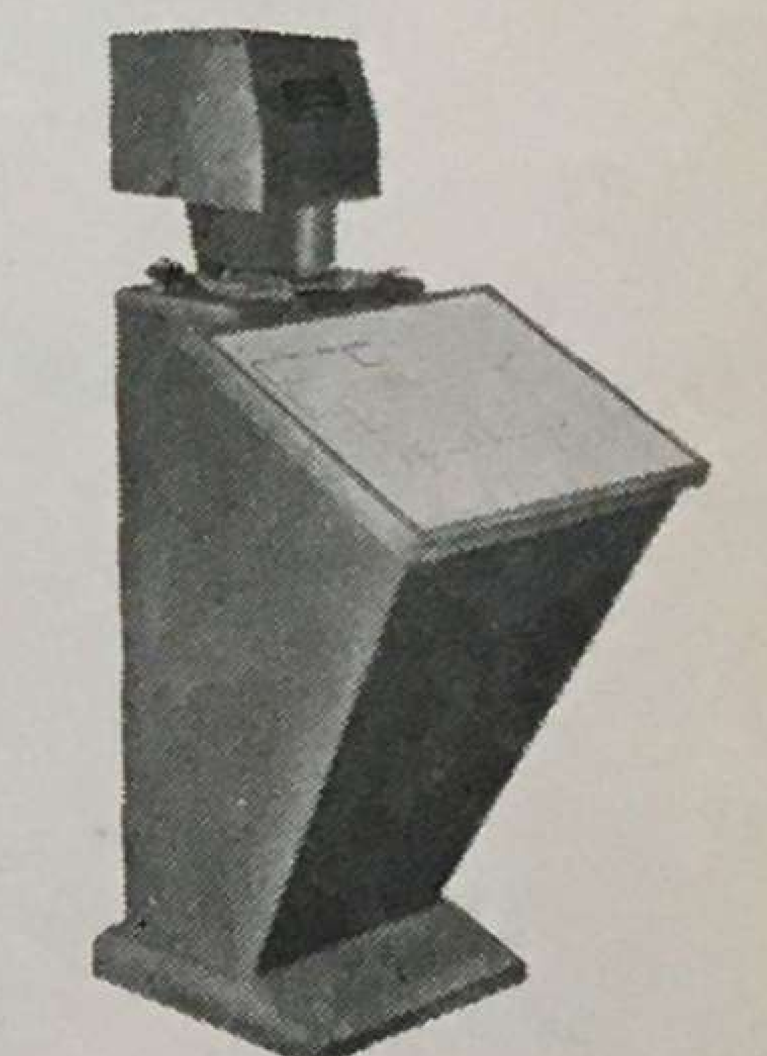
PHOTO DEVICES PLANETARY 105mm CAMERA has capacity of 350-ft. of 105mm film; 70mm usable with special attachment. Reduction ratios 3X to 10X accurately pre-calibrated to ±1/10%. Change is accomplished by button operated electric motor. Apochromatic process lens precalibrated to micrometric numbering counter. Illumination by six overhead floods; 12 slimlines for transillumination of tracings and transparencies; overhead lights controlled by variable transformer. Shutter controlled by electronic timer; 1/10 to 11 sec. Vacuum copy holder. Camera alone **$7000.** With copy board **$8100**

PHOTO DEVICES' MODEL PD1100 35MM MICROFILM CAMERA reproduces anything printed, written or photographed in line or continuous tone. Film capacity: 100′. Document size: 14″ x 17″ max. Camera head: removable. Take-up magazine: removable with cut-off knife. Focus: fixed for maximum sharpness. Features: "End of film" warning bell; variable light intensity; adjustable swivel sockets; 2 switches for easy operation; ground glass viewing. **$1,400.** Accessories available

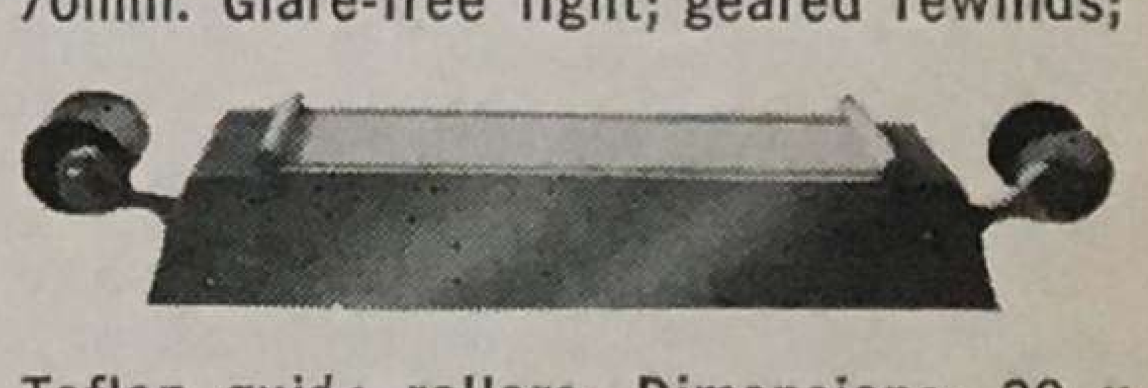
PHOTO DEVICES 105mm ENLARGER features magnetic film holder which holds films up to 4 x 6-in. flat between two optical glasses; can be micrometrically moved up and down, rotated ±10° for accurate register. 3X to 10X enlargement ratios precalibrated to accuracy of ±1/10%. Horizontal welded bed. Highest quality apochromatic process lens, precalibrated focusing. Pinpoint light source, prefocused striai-free condensers. Micrometric potentiometer controls light source; exposure electronically controlled 0 to 110 sec. Built-in safelight, suction copyboard. **$6100**

PHOTO DEVICES CONTINUOUS ROLL CONTACT PRINTER, PD 301, utilizes a new, smooth flowing, gearless and sprocketless drive. Taking up to 1000′ of 16, 35 or 70mm single, double or unperforated film, the PD 301 offers the highest resolution plus even illumination. Constant speed D.C. motor drives the film @ 90′/min. and uses a constant tension take-up on both positive and negative spindles no matter what footage has been rewound. High intensity print source light produces parallel beams at the printing slot. Slot is continuously variable from 0 to ½″. 6″ dia. dynamic balanced printing drum. Spindles accept either conventional spools or plastic cores, **$1,800. MODEL PD 301X,** same as above but has variable speeds from 15 to 90′/min. plus high actinic mercury vapor light source for printing microprint paper, **$2,750**

ROMCO 70MM READER offers desk height viewing of sharp, clear images on blue-tint eye ease screen, from 35 or 70mm films, in jackets or aperture cards. Negatives scan 4 ways. Standard lenses provide both 5x and 11x magnifications; turret mounted, micro focus adjustment. Lamp house is fan cooled, all optics are easily accessible for cleaning. New negative cover keeps film flat, prevents warping and distortion. Adjustable to any microfilm. **$1075.** Roll Film Attachment available as accessory, **$300**



ROMCO 70MM FILM INSPECTOR, for fast inspection of all sizes microfilm up to 70mm. Glare-free light; geared rewinds; Teflon guide rollers; Dimensions: 30 x 6 x 6″; inspects 5 frames at once. **$125**

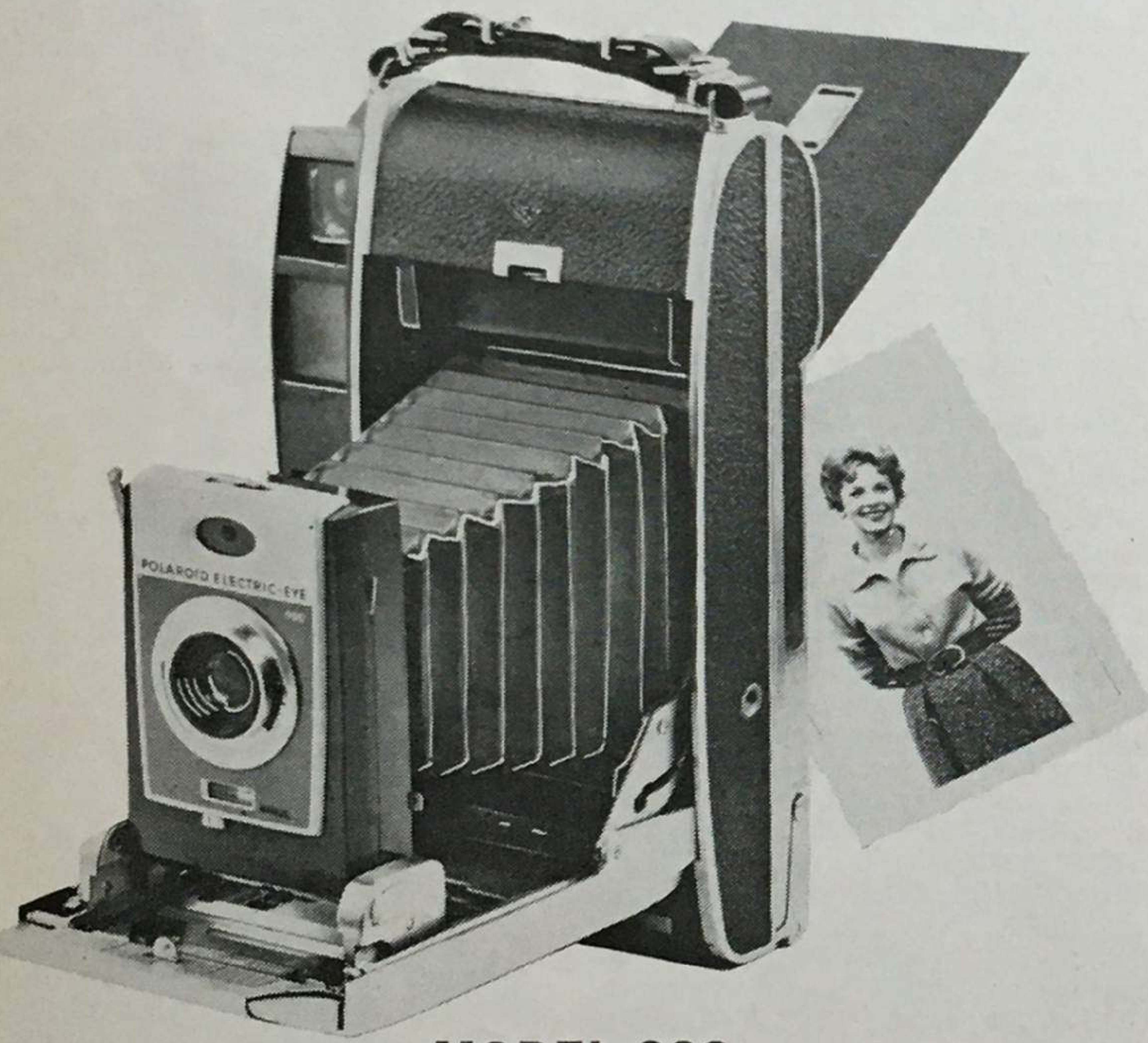


book

MICRORECORDING, INDUSTRIAL AND LIBRARY APPLICATIONS by Chester M. Lewis and William H. Offenhauser Jr. This is the first definitive treatment of the entire field of microrecording. It covers the uses, techniques and costs of this growing science. This is a must for every organization that maintains records. 468 pages. **$9.50**

POLAROID LAND CAMERAS PICTURES-IN-AN-INSTANT

Picture-in-an-instant photography has become a vital tool of business and industry in a few short years. It is being used in all kinds of commercial enterprises to save time, money and personnel. You too can have finished prints and transparencies on the spot—and can take advantage of the new products constantly being introduced to make this process even more exciting and useful. For example, three new Polaroid films of special interest to industrial users have recently been introduced. They are Types 55 and 57 film packets for use in the Land 4x5 Film Holder and Type 146-L, a new transparency film. Each of these products is described in detail on the next page. Call us and let our experts show you the Land process in operation. A demonstration will prove that this process can help solve many of your problems.



MODEL 900

POLAROID® LAND CAMERA MODEL 900, the deluxe Polaroid Electric Eye Camera, is the leader of the line and has greater range than any other electric eye camera. Its tiny micro-eye, so sensitive it can see in any light, selects the correct lens opening and shutter speed for every picture automatically. Focusing and aiming are extremely simple. The coupled rangefinder is right in the viewfinder window and one control sets both. An illuminated frame in the window shows exactly what will appear in the picture. The shutter can operate at speeds approaching 1/600th second which is fast enough to stop any action. Equipped to handle film speeds from 50 to 6,000, the 900 is synchronized for the Polaroid wink-light, regular and electronic flash. Its three-element lens is coated on all sides and color corrected. This deluxe model has lifetime lubricated bearings on the bridge roller and is finished in handsome charcoal gray tones. A day and night selector button allows for light change compensation. Pictures are postcard size—3¼"x4¼", **$159.95**

POLAROID ® PATHFINDER LAND CAMERA, MODEL 110A, is the most versatile of the Land Cameras. LENS: 127mm, f/4.7 Rodenstock with click stops at ½-stop intervals to f/45. SHUTTER: speeds to 1/300th second. This camera has a built-in self-timer; a coupled rangefinder with superimposed image, a parallax-corrected viewfinder plus synchronization for the wink-light, as well as regular and electronic flash. It is equipped with conventional f stops and shutter speeds plus a simplified EV (Exposure Value) number system. The camera makes eight 3¼x4¼" pictures on each roll. It is styled in two-tone charcoal gray. **$172.50**

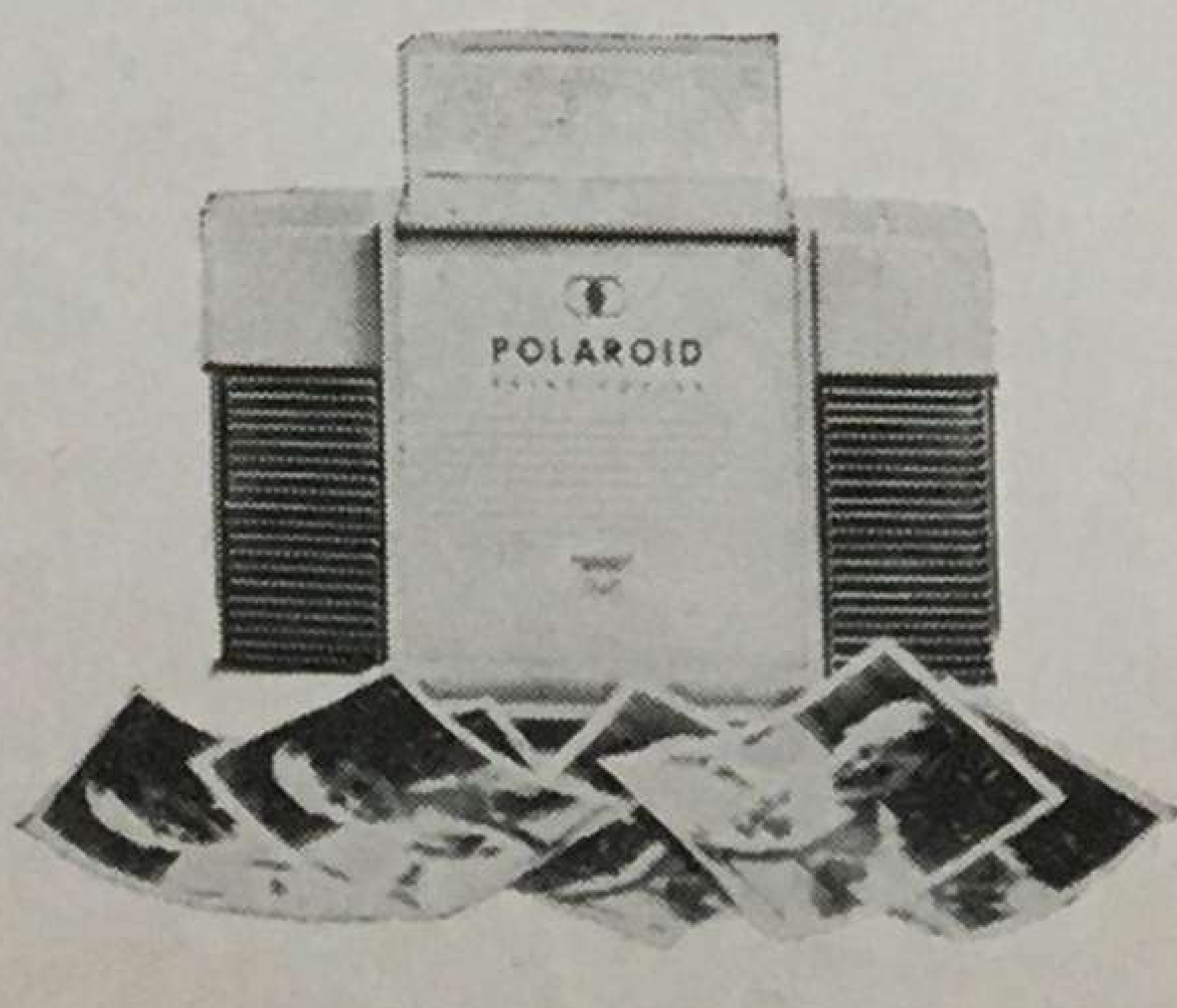
POLAROID ® LAND CAMERA MODEL 800 is the style and quality leader of Polaroid Land Cameras and comes with a ten-year guarantee. LENS: 3-element, 130mm modification of Cooke triplet. SHUTTER: chronometric with speeds controlled four times more closely than industry standards. Features include a coupled rangefinder and a viewfinder that automatically corrects for proper viewing plus lifetime lubricated bearings and special reinforcements at wear points. Synchronization is built in for the wink-light plus regular and electronic flash. One dial selects right lens and shutter combination. Camera takes eight 3¼x 4¼" prints on each roll. **$128**

POLAROID ® HIGHLANDER LAND CAMERA, MODEL 80B, is the low-priced camera in the picture-in-a-minute field. Light in weight and small in size it has a long-base viewfinder for perfect framing and picture taking—even for those who wear glasses. LENS AND SHUTTER: Single dial control for selection of correct lens and shutter combinations without complicated f stops. The wink-light or flashgun clips right to camera; there are no wires to plug in. Camera has drop-in loading and makes eight wallet-size photographs on each roll. **$76.85** (includes Federal Excise Tax). Sheath Case Model 381, **$9.95.** DeLuxe Fitted Case Model 383, **$19.95.** Wink-light Model 250 (for Land Camera Models 80B, 150, 800 and 110A), **$17.95**

POLAROID ® SPEEDLINER LAND CAMERA MODEL 95B is an improved model of the original Polaroid Land Camera. It features the single-dial setting of lens-and-shutter, yet has the advantage of four shutter speeds, five lens openings. There is built-in synchronization for the wink-light plus regular and electronic flash. Camera has easy drop in loading and turns out eight 3¼x 4¼" pictures for each roll. Viewfinder is combination optical and press-type. **$97.75.** Wink-light Model 252 (for 95A, 95B, 100 and 700), **$17.95**

POLAROID ® LAND CAMERA MODEL 150 features a coupled rangefinder and a viewfinder that is aimed automatically. **LENS:** 130mm Cooke. **SHUTTER:** single-blade chronometric. There is only one dial to set—it selects both lens opening and shutter speed. Synchronization is built in for wink-light, regular and electronic flash. Camera takes eight postcard size (3¼x4¼") prints on each roll. It is finished in handsome dark gray and chrome. **$113.50**

POLAROID ® PRINT COPIER allows you to make copies of your Polaroid Land pictures in your own camera in just 60 seconds. Just plug the copier into any 110-volt outlet, place your camera on the copier and put the print you wish to copy inside. Snap the shutter and 60 seconds later you have a perfect duplicate of any Polaroid Land picture.



You can actually improve the original in many cases by compensating for over and under exposure. Print Copier Model 230 for Polaroid Land Cameras 80 and 80A, Model 2401 for the 110 and 110A, Model 240 for all other Polaroid Land Cameras. Each, **$29.95**

POLAROID ® LAND PICTURE ROLLS are the heart and soul of picture-in-a-minute photography. They eliminate the need for darkrooms, chemicals, negatives, delays, lost pictures. Just drop a roll into a Polaroid Land Camera, snap the shutter, pull the tab and—presto!—10 seconds later you lift out a finished print, dry and ready to use.

POLAROID POLAPAN ® LAND PICTURE ROLLS are high-speed, panchromatic and offer professional and amateurs alike great range and latitude for both indoor and outdoor photography. For Polaroid Highlander Land Cameras, Type 32, ASA 400, **$1.64** per roll. For all other models, Type 42, ASA 200, **$2.14** per roll; Type 44, ASA 400, **$2.29** per roll. **POLAROID ® 3000 SPEED LAND PICTURE ROLLS** are the fastest ever offered for all-purpose photography and allow pictures to be snapped indoors without flashbulbs. Fifteen times more sensitive to light than PolaPan 200,-3000 speed film has an ASA equivalent speed of 3200 and opens up new fields in high speed photography. It takes pictures indoors by the light from a single lamp, and can be used with excellent results outdoors. For Polaroid Highlander Land Cameras. Type 37, **$1.79** per roll. For all other Polaroid Land Cameras. Types 47, **$2.29**

POLAROID ® WINK-LIGHT is a compact "fill" light that erases shadows with a gentle wink of light. It clips right to Polaroid Land Camera and winks automatically as the shutter is pressed. Used with new 3000 speed film, the wink-light makes possible indoor pictures at night by ordinary room lighting. It winks 1000 times on single battery and bulb, saving more than $100 in flashbulbs. Packaged with the wink-light are an auxiliary flasher for distance pictures at night plus a 4-S filter and a set of light seals to adapt the camera for 3000 speed pictures outdoors. Wink-light, Model 250 for Polaroid Land Cameras 80A, 80B, 150, 800 and 110A, **$17.95.** Model 252 for Polaroid Land Cameras 95, 95A, 95B, 100 and 700, **$17.95**

POLAROID ® PHOTOELECTRIC SHUTTER MODEL 440 is an independent unit which fits over the regular shutter of all Polaroid Land Cameras except the Highlander and Pathfinder. Used with 3000 speed film outdoors, it eliminates the need for adjusting focus or exposure. All you do is aim and snap the picture. Pictures are sharp in every detail from 3½ feet to infinity. The shutter speed can vary from 1/10th of a second in shade to 1/1000th of a second in bright sunlight. **$39.95**

POLAROID ® CARRYING CASES are designed for convenient carrying of picture-in-a-minute cameras and accessories. The Deluxe Fitted Case, styled in top-grain cowhide, has compartments for the camera, wink-light, electric-eye shutter (in model 310 case only) exposure meter, timer, extra rolls of film and any other accessories you want to carry. Only four inches wide, the case has a drop-open front. Its metal rim is ideal for uncurling Polaroid Land pictures. Included in case is a "board" for coating prints. Case's strap is quickly adjustable for hand or shoulder use. Deluxe Fitted Case, Model 383 for Polaroid Highlander, **$19.95.** DeLuxe Fitted Case Model 310 for all other Polaroid Land Cameras **$21.95.** Sheath case, in same cowhide, is fitted for camera and exposure meter only. Sheath Case Model 381 for Polaroid Highlander, **$9.95.** Sheath Case Model 306A for all other Polaroid Land Cameras, **$14.95**

POLAROID® LAND 4x5 FILM HOLDER ADAPTS 4x5 CAMERAS FOR 10-SECOND PICTURES

POLAROID® LAND 4x5 FILM HOLDER MODEL 500, adapts most 4x5 press and view cameras to on-the-spot photography without any alteration of camera or focusing system. It conforms to ASA specifications for 4x5 holders of the lock-rib type and can be used in cameras equipped with Graphic, Graflok and similar backs. Pictures taken with it can be developed immediately or removed from the holder and processed later. Since pictures are processed in the packet **outside** the camera, you can shoot as many as you want, one after another, without delay.

POLAROID® LAND 4x5 FILM is available in three types for use with the Land Film Holder. Two of them—Types 55 and 57—were introduced during the past year (their characteristics are explained in detail below). Still available is the earlier Type 52. All three of these films are panchromatic. Which type to choose depends largely on the results wanted.

Type 52 (ASA equivalent of 200 daylight) which now develops in just 10 seconds is ideal for illustrating catalogs, brochures and reports because it lends itself so well to direct reproduction in the engraving process. **Type 55** (ASA equivalent of 100 daylight) provides both a quality print and a fine-grain negative simultaneously without any cumbersome darkroom procedures—and does it in just 15 seconds. The negative is not sensitive to light and requires only a simple washing to be ready to use. **Type 57** (ASA equivalent of 3200) is an extremely fast film with 10-second development time. It makes possible indoor pictures without flashbulbs in low light level situations, and it is extremely useful for in-plant photography, oscilloscope trace recording, photomicrography and metalography.

POLAROID ® FIELD KITS are designed for safe, convenient handling of transparencies in the field, office or laboratory and include the necessary transparencies, a roll of film, 8 mounts, a special slotted section to hold undipped or unmounted transparencies safely and a shoulder strap. Field Kit Model 691 for Type 46 transparencies has a viewfinder mask for taking pictures on the 2¼x2¼" format, a light-seal tape to prevent film fogging and a pick to aid in lifting out the transparency. Field Kit Model 692 for the larger Type 46-L transparencies has the pick and tape, but no mask because it is not needed. Either model, **$7.95.** The following items which are contained in the Field Kits are also available separately. **POLAROID ® VIEWFINDER MASK** fits on the wire frame viewfinder of the camera and cuts down its field of view to 2¼x2¼" format of Type 46 Film. Mask Model 697 for Model 110 Land Camera or Mask Model 698 for the Speedliner, Models 700 and 100, **$1. POLAROID ® METAL PICK** which is useful for getting a firm grip on the transparent tab when lifting it from the camera is free.

POLAROID ® TIMER attaches to the tripod socket of any Polaroid Land Camera. To use it you simply set the timer to the recommended development time, pull the tab, push the timer buttons and lift out the picture when buzzing stops, **$5.95**

POLAROID ® LAND PROJECTION FILM has the speed, contrast, range, latitude and resolving power to produce excellent transparencies for projection to unlimited size. Speed: 800 daylight (ASA equivalent exposure index), 700 tungsten. Panchromatic emulsion has excellent tonal gradation, permitting great detail in highlight and dark black areas. The film is available in two sizes to fit all Polaroid Land Cameras except the Polaroid Highlander. Type 46-L Film produces 2¼x2¼" transparencies to fit Polaroid Projector Model 610. Type 46-L Film produces 3¼x4" transparencies for use in conventional lantern slide projectors. One roll has eight exposures, **$3.49**

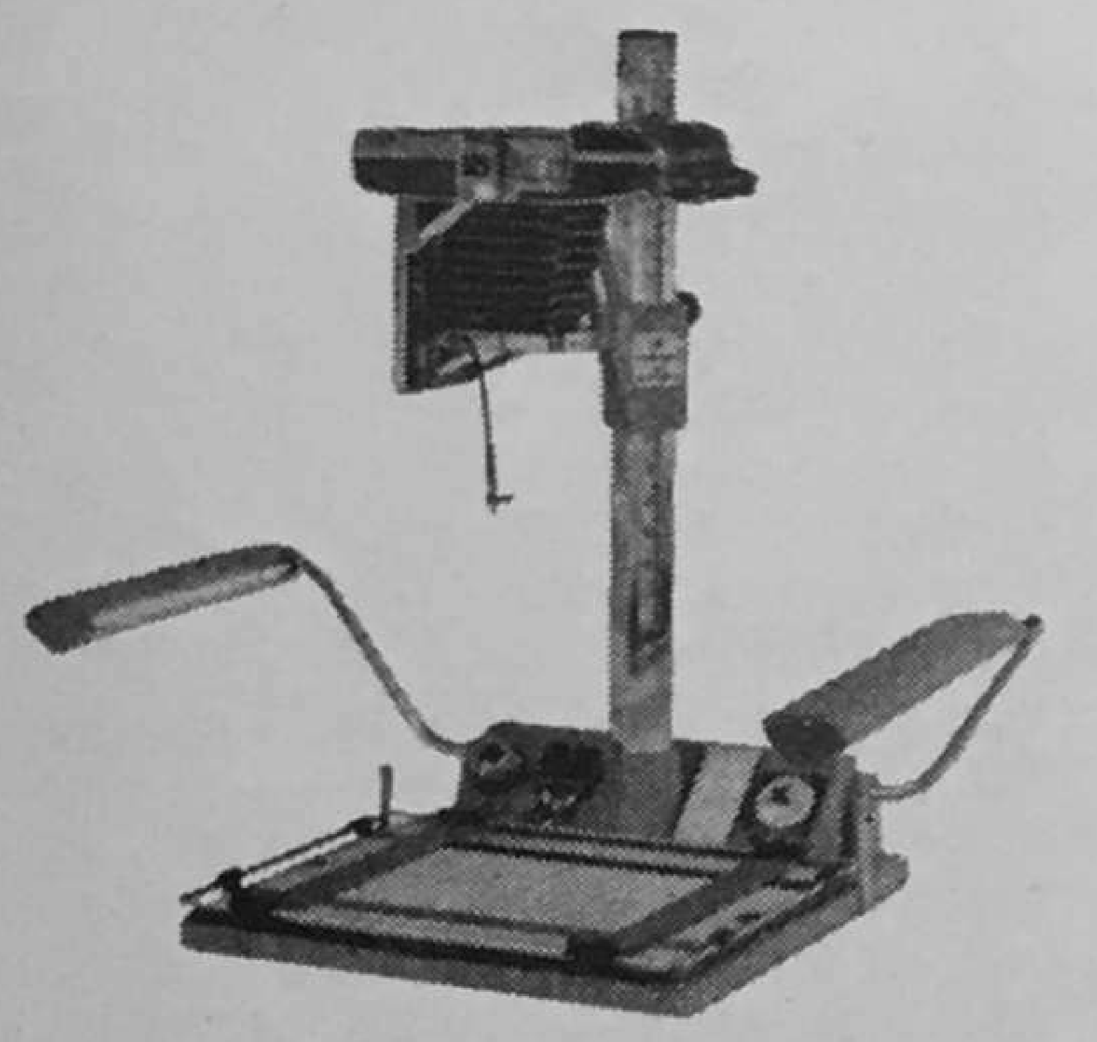
CHECK CHART FOR PROPER SIZE OR MODEL NUMBER

	If you want to make 2¼ x 2¼ slides	If you want to make 3¼ x 4 lantern slides
Camera	All Models except Models 80, 80A or 80B	
Film	Type 46	Type 46L,146-L
Mask	#698 for 95A, 700, 100 #697 for 110	None
Dippit	#644	#646
Mount	#630	#632 for Type 46-L,633 for Type 146-L
Field Kit	#691	#692
Projector	Model 610	Conventional lantern slide projectors
Copymaker	Model 208	Model 208

POLAROID ® DIPPIT is used with each transparency after its removal from the camera. It contains a solution which hardens the picture surface and protects the transparency from fading and discoloration. The leakproof plastic container has special rubber lips at the opening which squeegee the transparency almost dry as it is removed. Each dippit will process 48 transparencies. Dippit Model 644 for Type 46 Film (2¼x2¼" slides), **$1.10.** Dippit Model 646 for Type 46-L Film (3¼" x 4" slides), **$1.40**

POLAROID ® CLOSE-UP LENS KITS include three mounted accessory lenses of various magnification capacities for use singly or in pairs, plus carrying case and steel data tape. They enable anyone to take accurately focused close-ups from 6 to 36 inches from lens. Data tape shows the field of view, proper close-up lens selection, camera setting. Kit Model 550 for Polaroid Land Camera Models 110 and 110A, **$14.95.** Kit Model 540 for all other Polaroid Land Cameras, **$8.95**

POLAROID ® COPYMAKER Model 208 will photograph charts, maps, titles and any object that will fit into its 11x14" board. A double-sided easel is marked in 8 field sizes (square on one side for Type 46 Film, oblong on the other for Type 46-L Film and all series 40 Polaroid Land Picture Rolls), shows exactly what will appear in the picture.



There is a built-in electric timer for exposure and development timing. Two fluorescent lamps are included for uniform lighting over the entire copy. Copymaker fits all Polaroid Land Cameras with the exception of the Highlander, **$99.75**

POLAROID ® TITLING AND CHARTMAKING SET Model 211 is for use with Polaroid Copymaker and transparency film Types 46 and 46-L. It contains a starting assortment of Chart-Pak tapes, equipment and plastic grid sheet background for chartmaking, a 2-sided background board which is green fabric on one side for titles and gray on the other for contrast with dark material being copied; a font of 150 upper case Mittens' Display letters and numbers; a bottle of glue. **$21.50**

POLAROID ® EXPOSURE METER MODEL 625 is all-purpose meter with extraordinary range designed especially for use with 3000 speed film. It clips right to the camera and gives accurate readings for all light levels—inside as well as outside. You read correct shutter setting for your camera directly from meter. This meter can be used with Polaroid Land Camera or conventional cameras, and with film speeds from ASA 12 to ASA 12,000, **$16.95**

POLAROID ® FILTER AND LENS SHADE KITS provide greater picture control and improved print quality. Yellow and orange filters cut distant haze in scenic shots and give warmer photographs in high contrast beach or snow scenes. Polarizing filter kills undesirable reflections. For all Polaroid Land Cameras except Pathfinder: Filter Kit Model 541 includes yellow, orange and polarizing filters plus carry case, **$5.95;** orange filter Model 546, **$1.95;** Lens Shade Model 545 makes possible striking black-lighted pictures and eliminates pale, washed out prints, **$2.45.** For Polaroid Pathfinder Land Cameras: Filter and Lens Shade Kit, Model 551, **$10.95**

POLAROID ® PROJECTOR MODEL 610 is designed especially for the Polaroid Land Transparency System which produces 2¼x2¼" slides from Type 46 Film. Slides cannot be projected upside down or reversed because mounts can go into projectors only one way. LENS: American Optical 6½", f/5.6; produces an image 8 foot square at 20 Ft. LAMP: 500-watt, blower-cooled. 115-volt AC motor. The projector is mounted in a portable carrying case, part of which is detachable for viewing. Lens housing is detachable. Knob in front controls the elevation on a balancing unipod which prevents projector wobble. Projector provides an image that is uniformly sharp and brilliant without dark corners on screen. **$109.75.** Slide changer, Model 613 for 35mm 2x2" slides, **$4.95**

POLAROID ® SLIDE MOUNTS permit you to mount transparencies in seconds for viewing or screening. These plastic mounts snap together without additional fasteners or tape. No glass or tape is needed. Slide Mount Model 630 accepts Type 46 Film transparencies (2¼x2¼") with triangular-shaped tab. The transparency can be mounted in only one way and the mount can be inserted into projector in only one way, thus eliminating any chance of showing transparency upside down or reversed. Slide Mount Model 632 takes 3¼x4" transparencies made with Type 46-L Film. A diagonal guide in the mount matches the diagonal corner cutout of the film for easy mounting and thumbmark is molded into the mount for projection guide. Model 630, box of 16 mounts, **$1.50.** Model 632, box of 16 mounts, **$1.75**

POLAROID LAND TRANSPARENCY SYSTEM NOW OFFERS LINE COPY SLIDES IN 10 SECONDS

Users of the Polaroid Land Transparency System have an exciting new film at their disposal which produces line copy slides in just 10 seconds. Known as Type 146-L Polaroid Pola-Line Land Projection Film, it fits all Polaroid Land Cameras using 40-series film and has a daylight speed of 200 (ASA equivalent exposure index).

Slides made with this film have crisp black lines and clear transparent backgrounds no matter what the original material is—whether pencil or ink-lined graphs, charts, maps, typewriter copy, schematic drawings, etc. These slides can be quickly framed for projection in standard 3¼x4¼" lantern slide projectors using the new Polaroid plastic mount Model 633. The image area is 2$\frac{7}{16}$"x3¼", slightly smaller than usual, but the mounts are standard size.

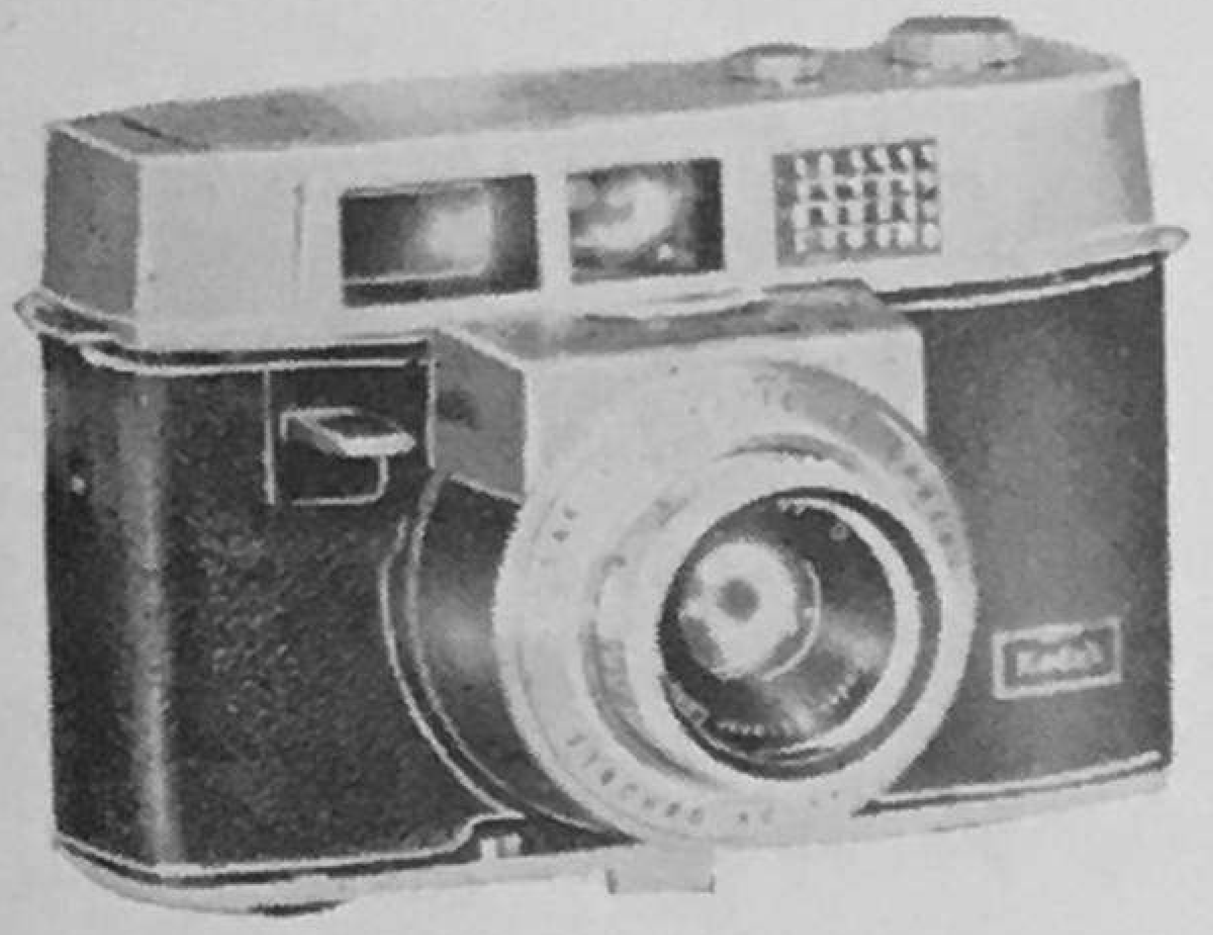
The original Polaroid Land Transparency films that produce continuous tone slides in two minutes are still available. They are Type 46 which makes 2¼"x2¼" slides for the Polaroid Projector Model 610 and Type 46-L which provides 3¼"x4" slides for standard lantern slide projectors. Slides made with either Type 46 or Type 46-L film are ideal for sales meetings, progress reports, safety and training work, copying x-rays—anything that necessitates delicate tonal graduations. Like the new type 146-L film, both of these earlier transparency films are for use in standard Polaroid Land Cameras taking 40-series film.

The Polaroid Land Transparency System involves only the six easy steps shown below. Once the camera is loaded, you take the picture and pull the tab exactly as you would with any Polaroid Land Picture roll. When the necessary development time is past—10 seconds for Type 146-L, two minutes for Types 46 and 46-L—you just lift out the transparency and harden it quickly in the Dippit. It can be mounted and projected immediately.

There are literally hundreds of commercial and industrial uses for the Polaroid Land Transparency System. Slides made this easy way are invaluable for business and club talks, on-the-job training, board meetings or any type of group examination of pictures and information.

35mm cameras

KODAK AUTOMATIC 35, new precision 35mm camera with built-in electric eye that automatically adjusts for lighting conditions. Focus, aim and shoot; no worry about exposure. Photo-electric meter measures light and controls lens opening. **LENS:** 44mm Ektanar f/2.8; focuses to 2½'; zone focusing. **SHUTTER:** speeds of 1/40 and 1/80th sec. Shutter is automatically cocked as film is advanced. As speeds are changed, **EVS** scale changes. Synchronized for all flash bulbs at "40" shutter-speed setting. Electronic flash at both speeds.

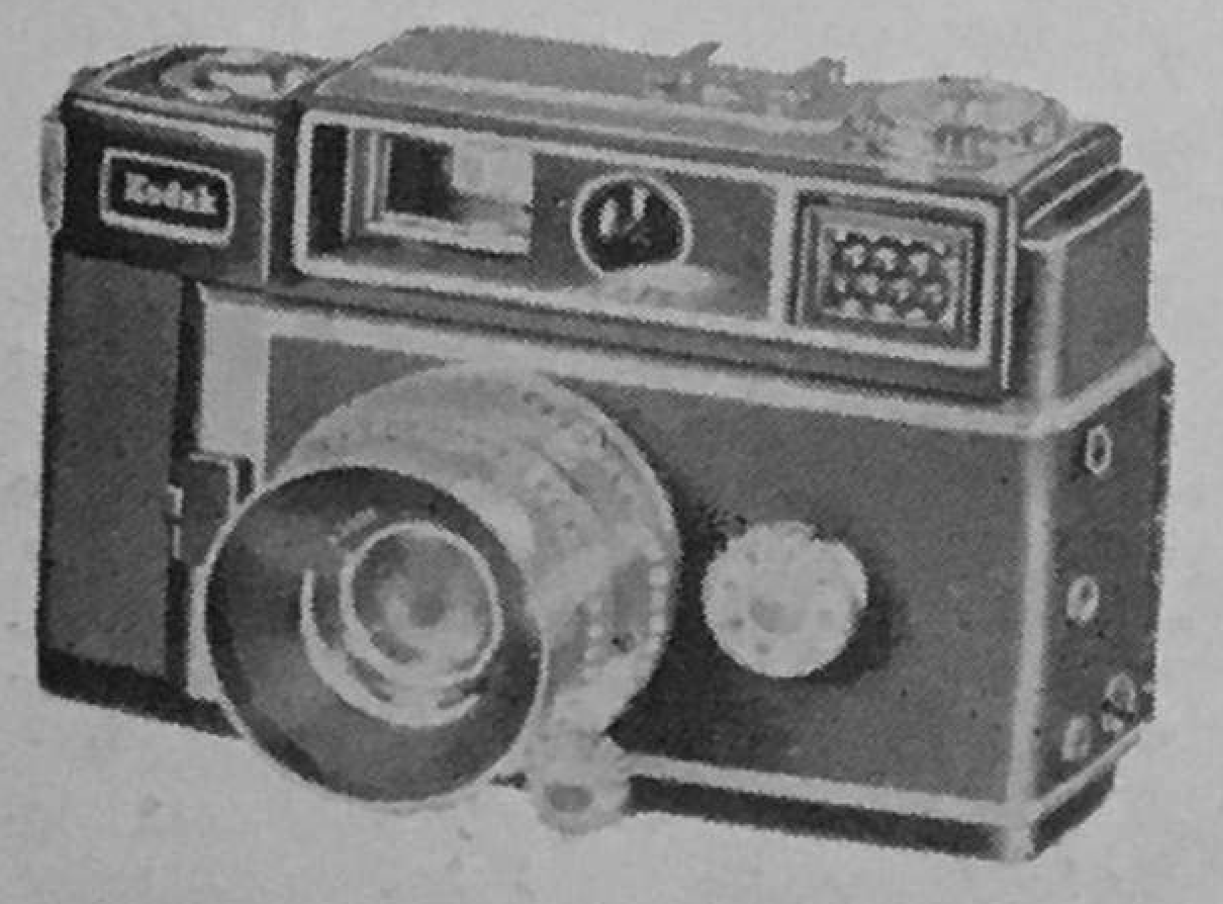


Easy-to-use luminous projected frame finder. Signal "wind" appears in finder after each exposure, indicating need for film advance. Simplified loading, single-stroke lever film advance. **$89.50**

KODAK MOTORMATIC 35. New precision camera is "most automatic of the automatics". Power-driven film advance with fully-automatic exposure control; auto, flash exposure calculation. Manual lens settings also possible. Spring-driven film-advance provides series of 10 exposures with one winding. Photo-electric exposure meter provides fully-auto. control; ASA film speeds from 10 to 800. **LENS:** 44mm Ektanar f/2.8.

SHUTTER: Kodak Automatic Flash Shutter, w/click stops for speeds of 1/40, 1/80, 1/125, and 1/250. Viewfinder is projected frame type with parallax marking for 4 ft., **$109.50**

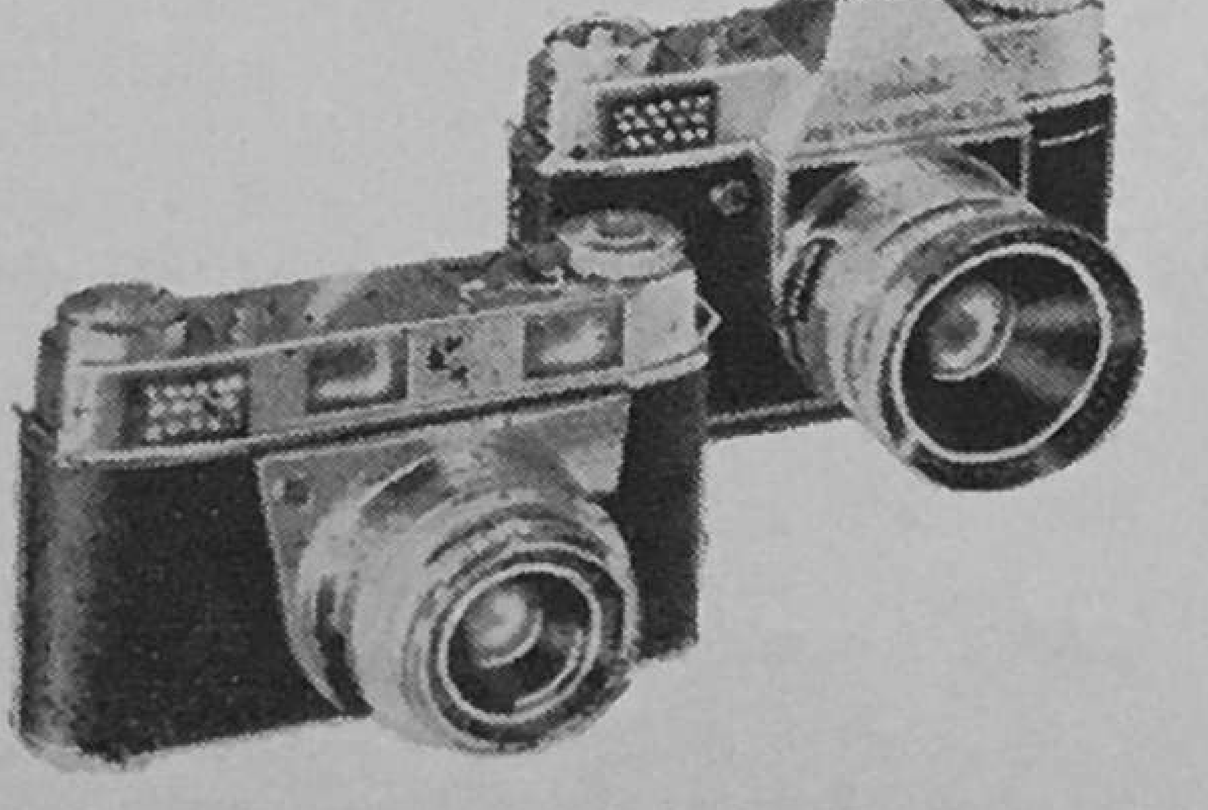
KODAK SIGNET 80 is a new 35mm precision American Classic—companion to world-famous Continental Retina cameras. **LENS:** Fast 50mm f/2.8 Ektanar incorporating rare-element glass, with both EV and F/scales. Instant lens interchange, with safety-locking slide and precision scissor-lock. Wide-Angle and Telephoto lenses available. **EXPOSURE METER:** extra-sensitive, photo-electric—measures reflected and incident light. Film speed range from 10 to 6400 ASA. **VIEWFINDER:** unique eye-level "unit power" shows subject in natural size. **COUPLED RANGEFINDER:** combined with viewfinder, focuses to 2½ feet. **SHUTTER:** Precision built with speeds from ¼ to 1/250 sec. and B—sync'd for all types of flash. Eight exposure value cards fit holder on back of camera. Rapid-action lever film advance; easy "injection" film loading. Auto. shutter setting as film is advanced. Autom. double-exposure prevention. Fast film rewind by folding crank. All controls conveniently located, camera is naturally balanced. Handsome modern styling, in black Kodadur and satin metal. **$129.50** **PHOTO AIDS:** Kodak Signet Wide-Angle lens, 35mm f/3.5 with leather pouch, **$57.50;** 90mm f/4 Telephoto with pouch, **$69.50.** Multiframe Finder, with luminous projected frames outlining fields of all 3 lenses, with case, **$17.50.** Field Case, **$14.50.** Accepts flashholder with Kodalite fittings, direct fitting—no bracket required.



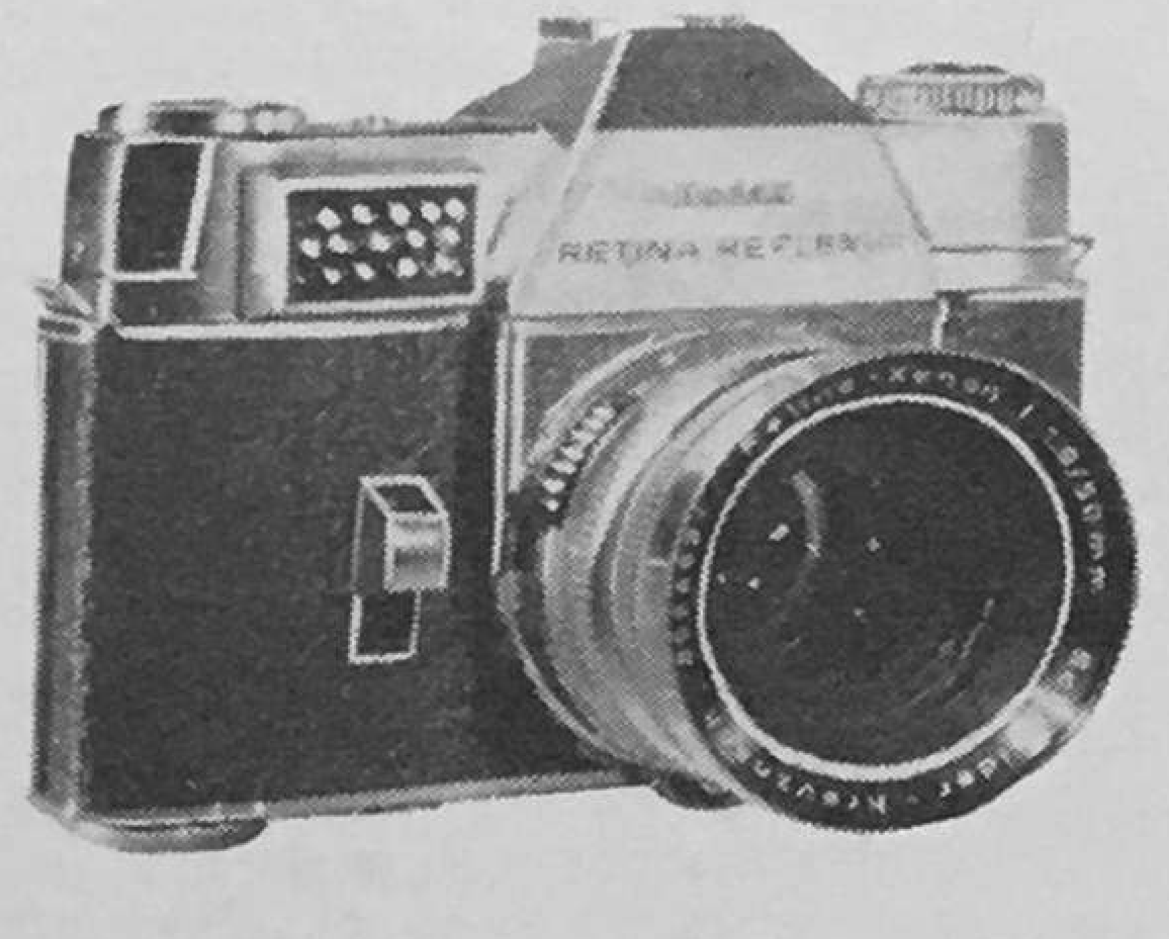
KODAK RETINA AUTOMATIC III. New popular priced precision camera. Full automatic exposure control—sets its own lens opening for correct exposure.

Full manual control—all lens openings and shutter speeds. Precision focusing—rangefinder is coupled to lens. Positive dim-light stop—when light is insufficient, shutter release locks and "Stop" signal appears in finder. Full flash synch., film speed settings from ASA 10-1,000. **LENS:** 45mm Retina-Xenar f/2.8 focuses from inf. to 3.5 ft. **SHUTTER:** Compur, speeds from 1/30 to 1/500. Double-exposure prevention; single-stroke film advance lever. Complete line of photo aids available, **$129.50**

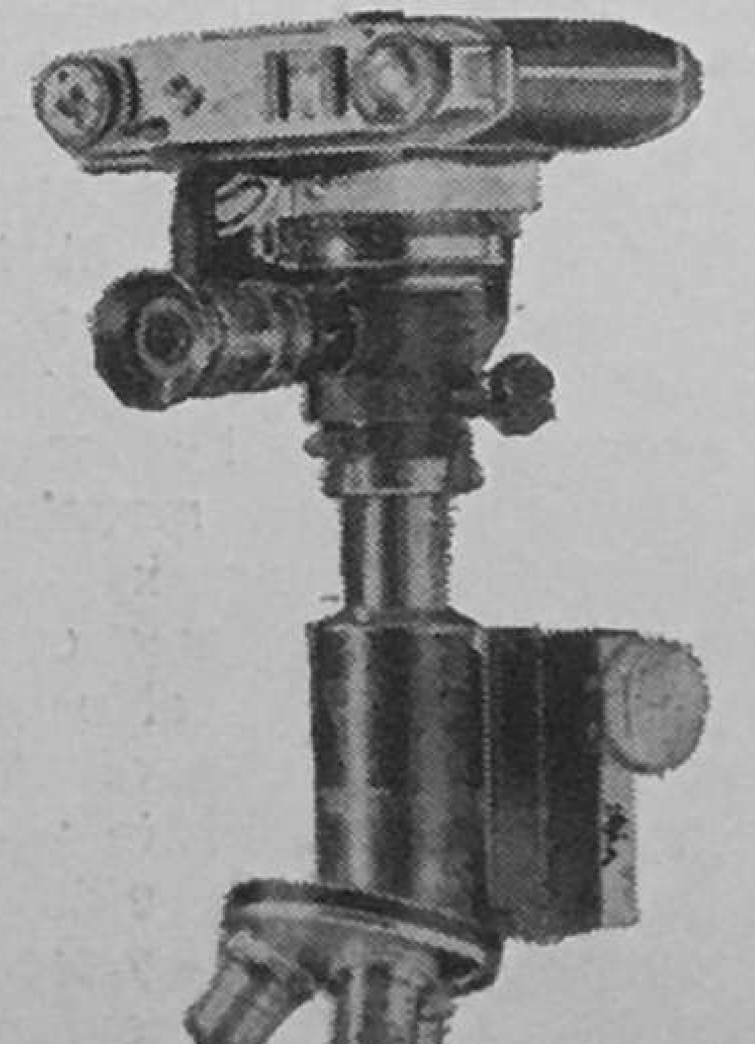
KODAK RETINA IIIS AND REFLEX S 35mm CAMERAS are both available with either f/1.9 or f/2.8 50mm lenses. The IIIS model features rangefinder focusing with all interchangeable lenses, and parallax-free, projected multi-frame viewing. The Reflex S model features full area ground glass focusing, optically coupled rangefinder focusing, and parallax-free viewing by means of a penta-prism through the taking lens at maximum lens opening with automatic closing down to preset f/ stop. Both cameras have all these features: automatic exposure control; the diaphragm on all interchangeable lenses is linked with the exposure meter's "follower pointer". Reflex and incident light reading. Lenses may also be set independent of automatic control, Complete lens interchangeability with other complete lenses of 28 to 135 mm focal length. All lenses have automatic depth of field indication. Synchro Compur Shutter, 1 to 1/500 sec., B, self timer, synchronized for all flash sources. Automatic diaphragm compensation as shutter speeds are changed. One stroke film advance, double exposure prevention with release for multiple exposures. Many useful photo aids such as cases, lens hoods, filters, close-up devices (f/2.8 lens) are available for both cameras, to make up a comprehensive system of Retina photography. **KODAK RETINA IIIS,** with f/2.8 Retina Xenar, **$157.50;** with f/1.9 Retina Xenon, **$193.** **KODAK RETINA REFLEX S,** with f/2.8 Retina Xenar, **$199.50;** with f/1.9 Retina Xenon, **$235.** Retina Curtagon lens, 28mm f/4, **$86.50;** Retina Tele-Arton lens, 85mm f/4, **$78.50;** Retina Tele-Xenar lens, 135mm f/4, **$87.50;** Retina 28 Optical Finder, **$13.25.** Field case, Model C (for f/1.9), **$15.50.** Field case, Model D (for Reflex and Reflex S (f/2.8), **$14.50**



KODAK RETINA REFLEX III . . . A new addition to this famous line—introducing dual photo-electric exposure control for greater operating ease & versatility. Exposure setting may be made by looking thru the viewfinder, or by viewing an opening at top of camera. This dual system enables user to maintain complete control from the moment he selects his subject, right thru to the moment of exposure. Lens opening is set automatically as the meter needle is centered. Enlarged viewfinder occular for easier viewing; clear split-image rangefinder is centered in viewfinder. New body shutter release gives added convenience of holding and steadiness. All basic features of Reflex S Model are incorporated, all lenses & most accessories of Reflex S can be used. With 50mm f/2.8 lens, **$214.50;** with 50mm f/1.9 lens, **$248.50**



KODAK RETINA MICROSCOPE ADAPTER KIT, MODEL D—For Kodak Retina IIIC, and Reflex III S, f/2.8, Reflex S f/2.8. Used for making photomicrographs. Includes microscope adapter, clamping ring, and light-value diaphragm locking ring. Reduction on film is 5 to 1. $62.50

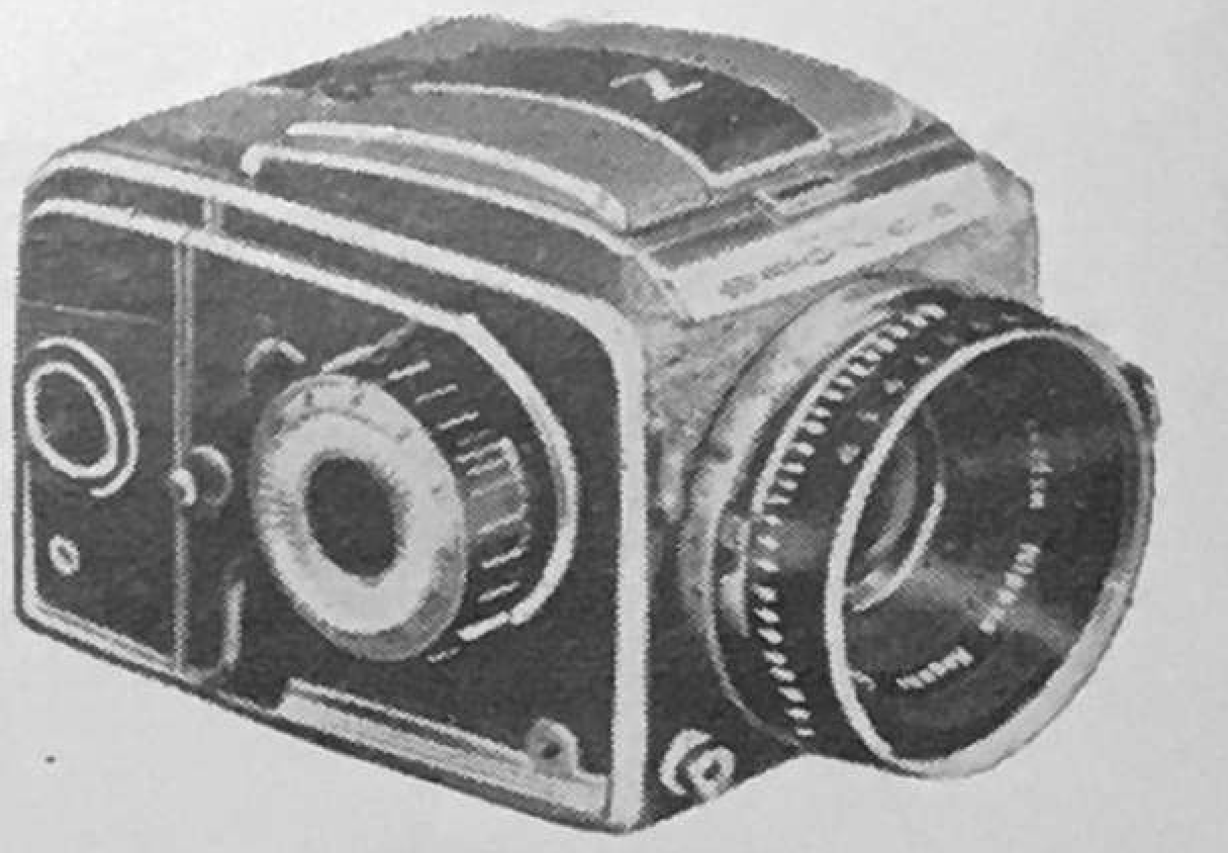


KODAK RETINA CLOSE-UP LENS SET, TYPE N32 (for Kodak Retina Reflex and Reflex S f/2.8) contains NI and NII auxiliary lenses. Used singly or in combination, cover picture-taking range from 38¼ to 11⅝" film-to-subject distance. **$10.** **TYPE R** set includes R1:4.5, R1:3, and R1:2 auxiliary lenses. Used singly or in combination, cover picture-taking range from 11⅛ to 5⅞" film-to-subject distance. **$22.50**

We carry a full line of
other 35mm cameras,
including Beseler,
Exakta, Minolta,
Nikon, Voigtlander
& Zeiss.

other single lens reflex cameras

BRONICA, all-new, fully automatic 2¼" square single-lens reflex camera with unique features. Instant-return automatic mirror springs back to viewing position in the wink of an eye after exposure; instant-reopen automatic diaphragm automatically closes down to "taking" aperture, reopens instantly to full aperture after the exposure. The Bronica is equipped with a depth-of-field preview button that permits you to stop the lens down to "taking" aperture at a touch. Release the button, the diaphragm springs open. The exclusive removable "Filminder" back permits you to switch film in middle of roll. It automatically "knows" whether film has been advanced and shutter wound and winding film-advance knob accomplishes the only required function. Nikkor lenses are standard equipment on the Bronica. Normally supplied with a 75mm Nikkor f/2.8 lens, the Bronica will accept a 50mm f/3.5 wide angle Nikkor lens. Other Nikkor lenses are available from 135mm through 1000 super-telephoto. Other features include: shutter speeds from 10 to 1/1250 sec.; rack-out focusing, with knob conveniently located on camera body; bright, fresnel-type focusing screen with large magnifier (covers entire field-of-view); interchangeable focusing hood; FP and X flash synch; many others. With 75mm Nikkor f/2.8, **$489.50**



GRAFLEX 3¼x4¼" SUPER D is the top choice of professionals for portraiture, action photos and other photography. Takes the guesswork out of picture-taking as the image is seen in full size. 152mm Ektar automatically adjusts itself to any predetermined setting. Accepts all Graflex accessories including: roll holder, film pack adapter and sheet film holders. Flash synchronized, interchangeable lenses, 8 focal plane shutter speeds fr. 1/30 to 1/1000 sec. plus 1/5 (drop curtain) and T. With Ektalite field lens, revolving Graflex back and film pack adapter, **$325**

twin-lens reflex cameras

ROLLEIFLEX—standard of professionals and amateurs the world over. Completely automatic, with finest 3.5 or 2.8 lenses, with or without built-in meters, synchro-Compur shutters, double exposure prevention and release, self-timer, auto depth-of-field scales. Rolleiclear focusing screens, removable hoods, etc. **ROLLEIFLEX 3.5F and 2.8F**—with built-in meter coupled to lens and shutter, but fully controllable. Auto depth-of-field and filter correction. 3.5F with Schneider **XENOTOR, $259.50;** with Zeiss **PLANAR, $279.50.** 2.8F with **XENOTAR, $339.50;** with **PLANAR, $349.50. ROLLEIFLEX PRO MODEL 3.5E2** (illus.) (without meter) only **$229.50. ROLLEIFLEX "T"**—a special Rollei that gives 12 pix 2¼x2¼", or 16 pix 1⅝x1⅝" (Super Slide size). Counter changes automatically. Single lever exposure control. Finest Zeiss Tessar 3.5 lens in synchro-Compur shutter. Only **$179.50.** (Meter, if desired, and case extra.) Case extra for all models. **ROLLEI MAGIC**—the wholly automatic Rollei that eliminates all guess-work and confusion from perfect picture taking. You simply point Rollei magic at a subject and both lens and shutter automatically and instantly adjust for a perfectly exposed picture. Takes flash pictures, and time exposures of any length. Automatically corrects for filter use, and permits locking the exposure for close-up readings. Finest Schneider f/3.5 Xenar lens. Takes 12 2¼x2¼" pictures and 16 Super Slide transparencies. Only **$169.50**

ROLLEIFLEX

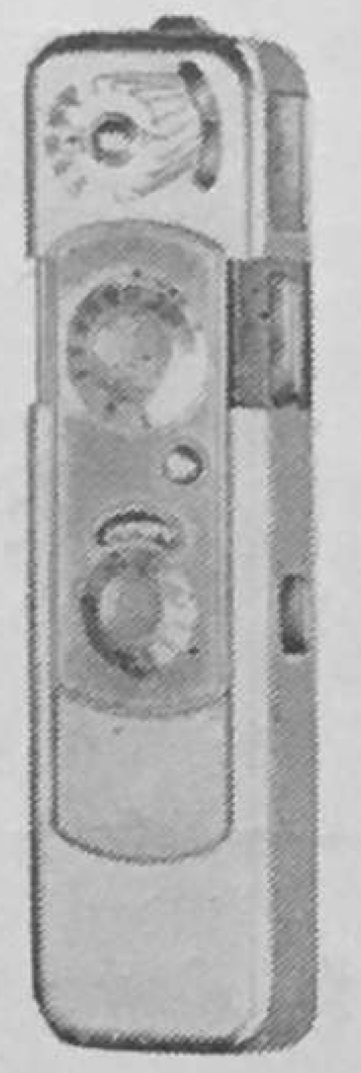
ROLLEI ACCESSORIES: Case for 2.8E2, 3.5E2, 3.5T, (all with detachable front), **$19.95;** Va, **$14.50;** 4x4, **$11.55;** Tele-Rolleiflex, **$24.95.** Metal Eveready Case for 2.8E, 3.5 or Va, **$29.95** Desiccant Cartridge, **$1.50.** Rolleifix Tripod Head, **$5.95.** Extension Focusing Hood, **$3.75.** Extension Hood, 2¼x2¼" with binocular focusing magnifiers adjustable to spacing of user's eyes, **$19.95.** Lens Hood, **$4.95, $5.95** and **$6.95.** Rolleigrid lens, **$4.95;** Rollei filters, **$4.95, $6.45** and **$7.95;** Rolleipol Polarizing Filter, **$16.95, $19.95** and **$24.95;** Rollei Conversion Filters, **$6.95, $7.45** and **$8.95** singly, or **$39.95, $44.95** and **$49.95** in 6-filter Kit including leather case. Rolleinars 1 and 2, closeup lenses, **$14.95, $17.95** and **$19.95** each. Rolleinar Sets #3, working range 12½" to 9½", **$15.95, $18.95** and **$20.95.** Rolleisoft 0 and 1 filters, **$8.95, $9.95** and **$11.95** each. Rolleimeter, **$24;** protective cap for meter, **95¢** Panorama Head, **$13.95.** Rolleimarin Underwater Housing for Rolleifix 3.5, **$289.50.** Rolleikin Adapters for 2.8F, **$25.80** for 3.5 **$34.95.** Plate Adapter, **$39.95.** Adapter Back, **$12.95.** Plate Holder, **$8.95.** Ground Glass Focusing Screen, **$6.95,** Rolleiflash, **$24.95**

TELE ROLLEIFLEX especially designed for portraiture, fashion photography, sports, etc. Equipped with twin f/4.0/135 Zeiss Sonnar lenses, camera affords all advantages of compact Rollei design, precision construction; other features same as 3.5E Rollei. Supplied without meter (pre-assembled meter as for Rolleiflex "T" may be installed). **$424.45;** case, **$24.95**

ROLLEIMARIN UNDERWATER HOUSING for Rolleiflex 3.5. With prism and port for ground glass focusing in swimming position; full camera controls include change of filters (light yellow, medium yellow, orange filter supplied); eye-level open finder; provision for flash. Easily assembled with safe, secure cam lock, permanent sea-green metallic finish; requires no pressurizing; tested to over 300-ft depth. **$299.50.** Complete with BC flash unit, open finder, 3 filters, set of cases, **$375**

ultraminiature cameras

MINOX B is a high-precision ultraminiature camera (⅜x1x3.⅞") which incorporates a built-in exposure meter coupled to the shutter and many other features of larger cameras. Takes up to 50 exposures 8x11mm on daylight-loading film cartridges. Made to the standards of the watch-making industry. **LENS:** 15mm f/3.5 Complan 4-element high resolution; color corrected; focuses from 8" to infinity; green and neutral density filters built in. **EXPOSURE METER:** Photo-electric, coupled to shutter speed dial. **SHUTTER:** speeds from ½ to 1/1000 sec. T and B. Simple opening and closing of camera winds shutter, advances film, and sets exposure counter. Large luminous frame optical viewfinder with automatic parallax correction. Film cartridge is inserted into camera without threading. Weight 3½ ozs. **MINOX B,** flash synchronized, with morocco leather case and measuring-safety chain, chrome finish, **$169.95**



MINOX IIIS (without built-in meter) **$139.50.** MINOX TABLE TOP TRIPOD has built-in swivel head which locks in position with turn of larger of three tripod legs (two smaller legs unscrew and store in larger), with cable release, **$9.95.** MINOX TELEPHOTO-BINOCULAR CLAMP attaches Minox to binocular. Adjustable for oculars from 1" to 2" diameter; with special convenient release clamp, **$24.50.** RIGHT ANGLE FINDER for un-observed shooting, **$9.95.** MINOX FILMS in black and white. Minox ASA 25, 50, 100; and Micro-copy (two 50-exposure cassettes per box); Kodak Plus-X and Tri-X (two 36-exposure cassettes per box), **$2.50.** Daylight Color Film is Anscochrome ASA 32 packaged by Minox: 36-exposure cartridge, **$2.50**

MINOX ULTRA-MINIATURE FILMS in daylight-loading cassettes require no rewinding; supplied in 50-exposure cassettes (2 per box) of MINOX ASA 25, ASA 50, ASA 100 and MICRO-COPY (AS45) film: 36-exposure cassette: (2 per box), Kodak Plus-X, Tri-X. (1 per box), Anscochrome Daylight (ASA 32). All Minox Films: per box, **$2.50**

books

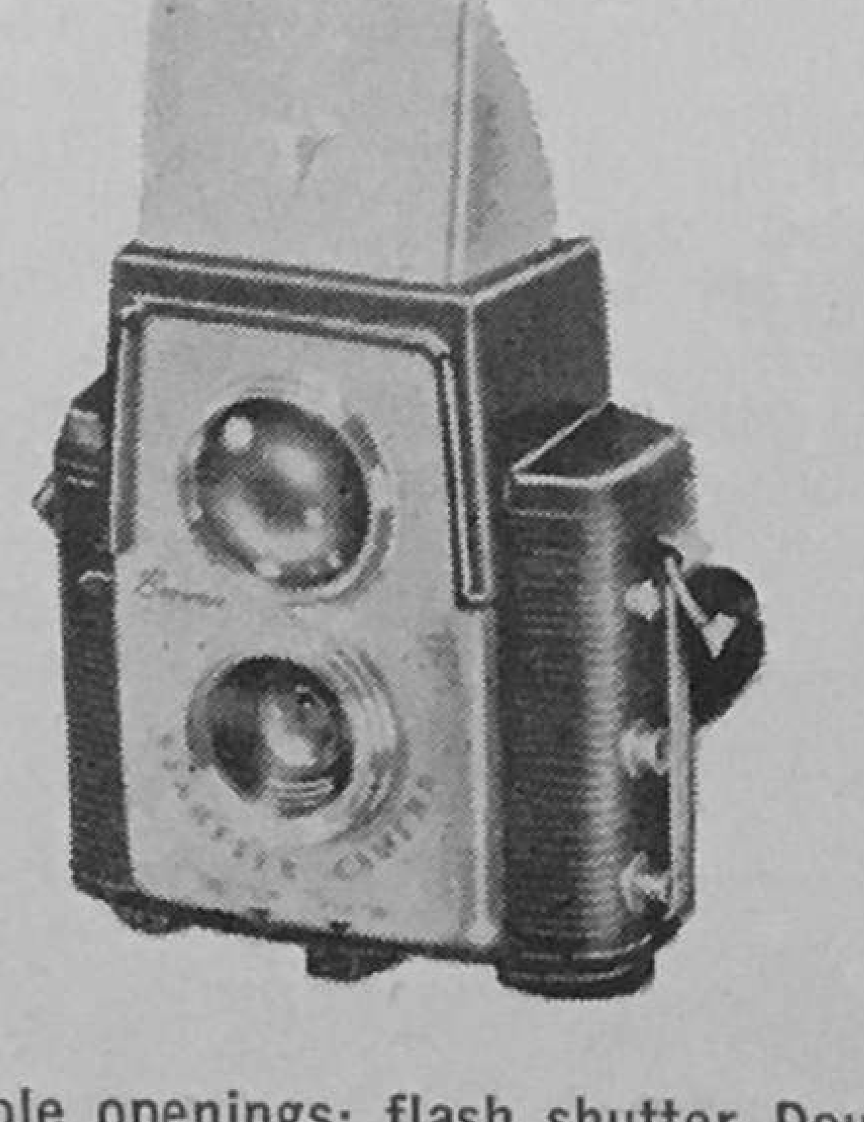
ULTRAMINIATURE PHOTOGRAPHY by Joseph D. Cooper. A complete guide to ultraminiature cameras, films and accessories. This book covers developing, enlarging, closeups, color, etc. **$3.95**

SMALL MINOX—BIG PICTURES by R. Kasemeier. Comprehensive guide to Minox Photography, 190 pages, **$2.85**

snapshot cameras

BROWNIE STARFLASH is a compact, versatile camera with built-in flash holder for M2 flash lamps. Takes snapshots in black and white and in color, as well as color slides. Fixed-focus Dakon lens with adjustable openings; optical viewfinders, adjustable neck strap. Makes 12 exposures on #127 film. Negative size, 1⅝x1⅝". Dimensions approx. 5x3¼x2¼"; weight approx. ½ pound, black, **$9.95;** Case, **$3.25. BROWNIE STARFLASH OUTFIT** contains everything needed for easy picture taking indoors and out. Includes the Brownie Starflash camera, black, 1 roll 127 film, 2 batteries. 4M2 flash lamps and instruction book. **$12.45.** Same outfit with colored camera, **$12.95**

BROWNIE STARFLEX is a versatile, simple reflex-type camera for B&W and color snapshots, and color slides. Has extra-large hooded reflex finder as well as direct-view, wire frame sports finder. Fixed-focus Dakon lens with adjustable openings; flash shutter. Double exposure prevention; adjustable neck-strap. Makes 12 1⅝x1⅝" pictures on 127 film. Dimensions, approx. 4x3¼x2¼"; weighs approx. ½ pound, **$12.50.** Case, **$2.75;** Kodalite Midget Flasholder, **$3.95;** Kodak Rotary Flasholder, Type 1, **$10.95**



BROWNIE STARLET is the smallest and lowest-priced model in Kodak's new line of Star Cameras. Same as Starflash without built-in flash holder but has extra-large optical eye-level finder. Dimensions approx. 3½x3¼x2¼; weight approx. 5 ounces, **$6.25;** case, **$2.75;** Kodalite Midget Flasholder, **$3.95. BROWNIE STARLET OUTFIT** containing: camera, flasholder, 4 flash-bulbs, 2 penlite batteries, 1 roll VP-127 film, **$11.50**

BROWNIE STARMITE has all the features of the popular Brownie Starflash plus a compact new design. Features tiny (2-inch) built-in flasholder using low-cost AG bulbs. Makes 12 exposures on 127 B&W, Kodacolor and Ektachrome film; you get standard enlarged prints (3½x3½"), or color slides (super-slides). Large optical eye-level finder, double exposure prevention. Camera, complete, weight only 8-oz., measures 4¼x3¼x2½". **$11.50. STARMITE CAMERA OUTFIT** includes camera, neck strap, 6 flash bulbs, batteries, roll of film, instructions, **$12.95**

BROWNIE STARMETER offers photo-electric metering at a budget price. 12 pictures, 1⅝x1⅝" on 127 B-&-W or color film, snapshots or super-slides. Built-in meter lets you aim camera and quickly set correct exposure. 5 EV readings; 7 film speed settings. **LENS:** 44mm Kodar f/8, pre-adjusted universal focus. Shutter sets automatically as film advances. Double-exp. prevention; sync'd for all popular flash bulbs. Optical eye-level finder. **$21.95.**

BROWNIE STARMETER OUTFIT, with camera, flasholder, 4 bulbs, battery, roll of film, neck strap, instructions, **$27.50**

BROWNIE STARFLEX OUTFIT features the Brownie Starflex Camera, 2 rolls 127 film, Kodalite Midget Flasholder, 2 batteries, six M2 flash lamps and instruction book. **$17.50. BROWNIE STARFLEX DELUXE OUTFIT** includes the Starflex Camera, Kodak Rotary Flash-holder, Type 1 (fires 6 bulbs in rapid sequence), 12 M2 flash lamps pre-loaded on 2 webs holding 6 lamps each, 2 rolls film, 15-volt battery. **$27.25**

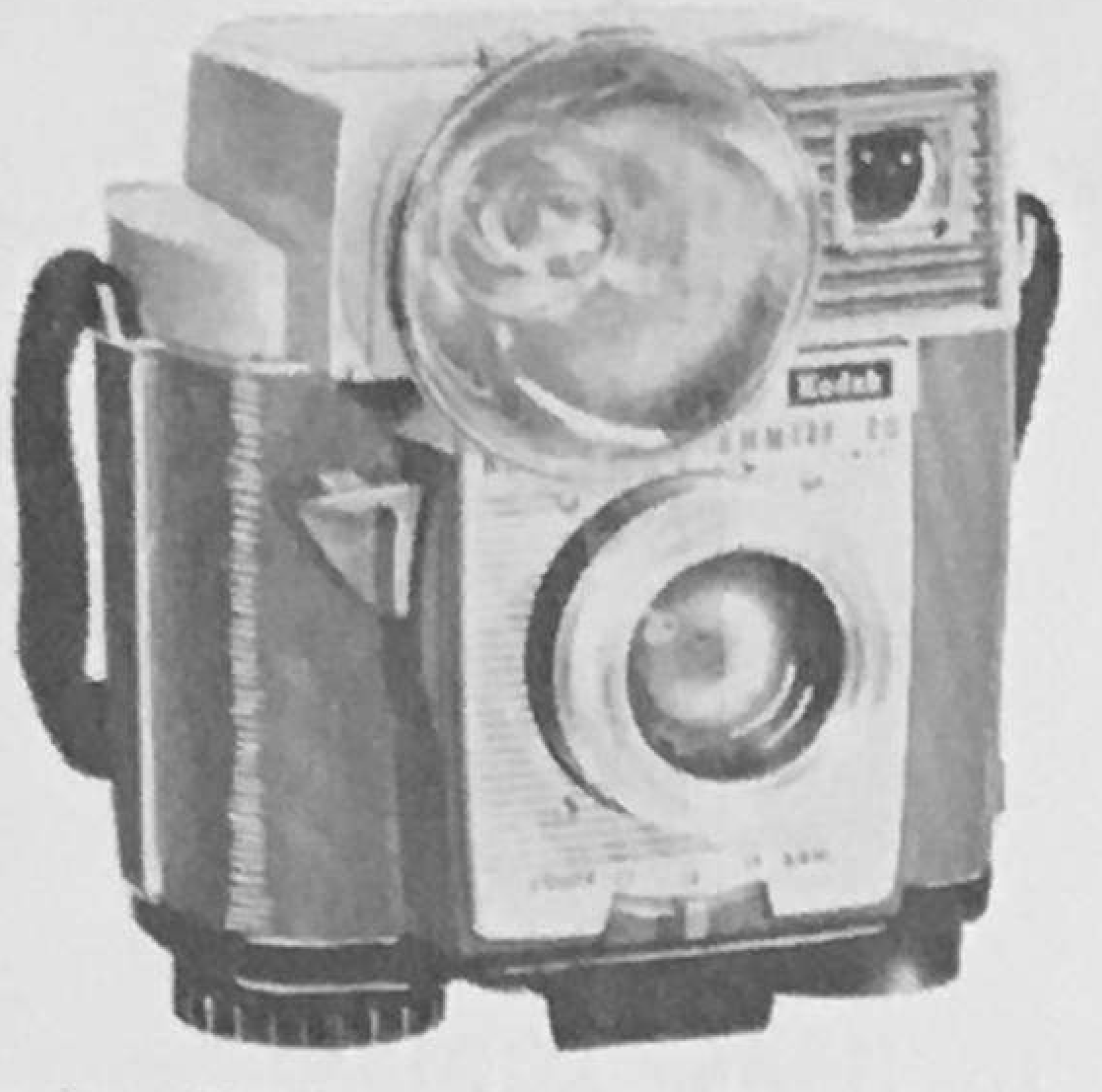
BROWNIE STARMATIC is the new, low-priced, Kodak camera which sets its own lens, automatically, for perfect pictures in sun or shade. Light is measured by sensitive photoelectric cell which controls lens opening just before shutter is tripped. An f/8 lens permits daylight pictures on bright or cloudy day. If it's too dark, a warning

continued on next page

flag appears in finder. Can be set manually for special effects or flash. Accepts 127 film; twelve 1⅝x1⅝″ exposures to roll; for color slides and black-&-white or color snapshots. Automatic control can be set for films with ASA ratings of 32 through 125. No focusing required; shoot as close as 3-ft. full flash synchronization. Clear,

bright, eye-level finder; automatic double exposure prevention. **$29.95. STARMATIC OUTFIT** with camera, case, flasholder, 6 bulbs, 2 batt., 1 roll VP 127 film, **$39.95**

BROWNIE FLASHMITE 20 combines advantages of big pictures (2¼x2¼″) with economy of operation. Built-in 2″ reflector uses low-cost AG-type flash bulbs. 12 exposures on roll of 620 B&W or color film for snapshots or slides. **LENS:** f/11, 3 exposure and focus settings, auto, film metering; click stops for close-ups, groups, scenes. Precision flash shutter sets



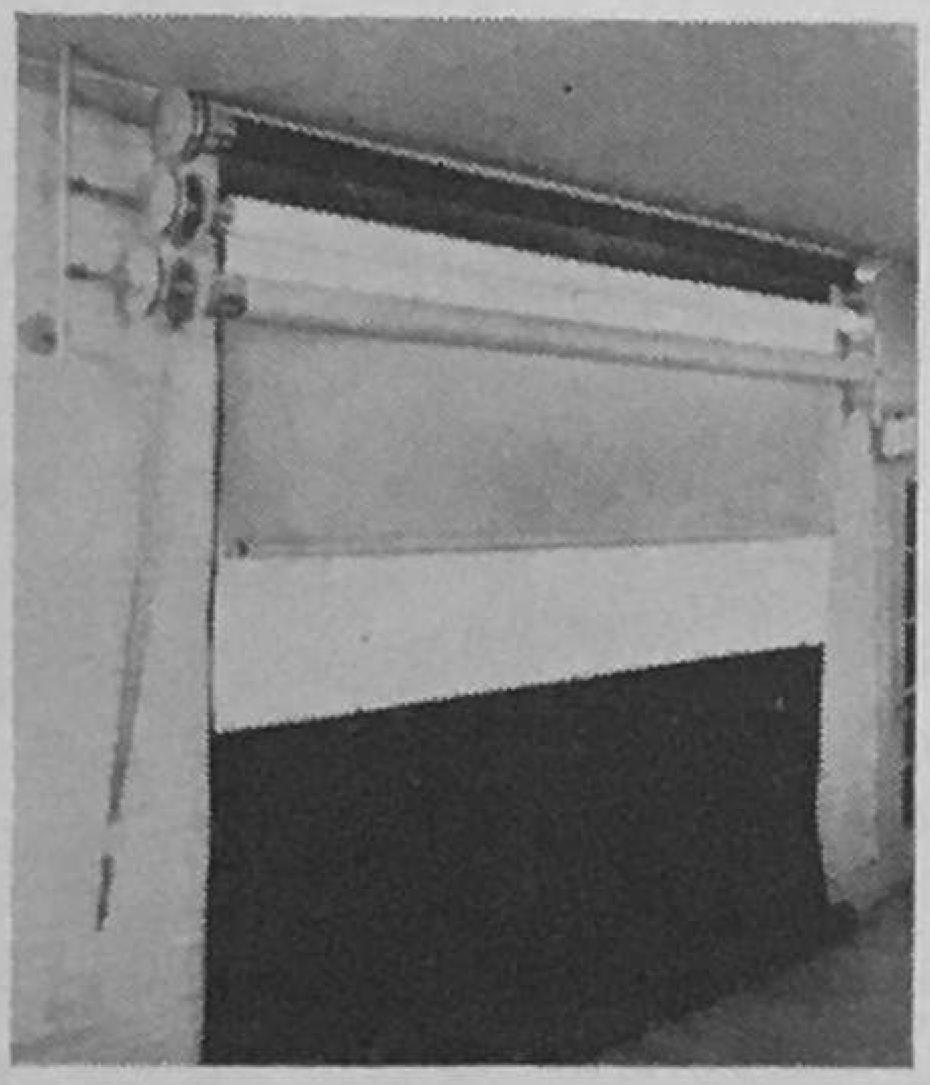
automatically as film is advanced. Double exp. prevention; eye-level optical finder. **$16.50. BROWNIE FLASHMITE 20 OUTFIT** includes camera, strap, 6 flash bulbs, battery, film, instr., **$17.95**

> We have many other cameras in stock, including Stereo & twin-lens reflexes.

CAMERA ACCESSORIES

backgrounds & holders

CONCOURSE ROLLAWAY HOLDERS for Seamless Paper Backgrounds are engineered to last for years. No slow gears, Chain Drives run paper up and down instantly. May be attached to wall or ceiling, simple to install. Ideal for Fashion, Portrait, Commercial or Industrial photographers. Available in 1, 2 or 3 roll units, they hold paper 9′ and 12′ wide. For 9′ wide paper:



MODEL 145, complete 1 roll unit, **$39.85; MODEL 146,** 2 roll unit, **$66.05; MODEL 147,** 3 roll unit, **$92.25.** For 12′ wide paper: **MODEL 155,** 1 roll unit, **$64.95; MODEL 156,** 2 roll unit, **$114.85; MODEL 157,** 3 roll unit, **$157.75**

PHOTO TECH WHITE SEAMLESS BACKGROUND PAPER in 4, 6, 9 and 12′ widths. Paper is core-wound and shipped in specially designed cartons. 4′ width, 100′ length, wt. 13 lbs. 2″ or 2½″ core size, **$15.30.** 6′ width, 100′ length, 17 lbs. wt., 2″ or 2½″ core size, **$18.75.** 9′ width, 100′ length, wt. 27 lbs., 2″ or 2½″ core size, **$25.95;** 50′ length, 16 lbs. wt., **$15.40.** 12′ width, 100′ length, 35 lbs. wt., **$30.90;** 50′ length, 21 lbs., **$18.95**

PHOTO TECH'S ROLLEASY BACKGROUND ROLLER unit includes aluminum roller, roller pin, 2 mounting brackets, cutting edge, drive assembly, idle end and hand crank. Can be expanded to 4 rollers on ceiling bracket or 2 on wall bracket. 12′, 1-roller unit, complete with brackets, weighs 22 lbs. (without paper). 12′ width, with 1 roller, **$77.50.** With 4 rollers, **$229.50.** Others from **$62.50**

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binocular adapter

BUSHNELL BINO-FOTO UNITS include photo-precision BINO-FOTO Binocular aligned to your camera with specially designed BinoDapters. Can be used with twin-lens reflex, 35mm and 8 or 16mm movie cameras. Multiplies normal focal length of camera lens seven times. Superb optical system of new, high refractive glass with built-in light baffles, latest amber lens coating and built-in ultraviolet filter. Complete units: twin lens, **$124.50;** 35mm **$139.50;** movie, **$144.50;** 35mm reflex unit (monocular), **$84.50.** Binocular with case, **$99.50.** Model B225 BinoDapter for twin lens reflex or model B35 BinoDapter for 35mm, 8, and 16mm, **$19.50.** Sunshade-iris diaphragm, **$14.50.** B35M movie bracket, **$5;** follow focus eye-piece, **$15**

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cable & shutter releases

KODAK BULBS AND TUBING—Available in combination or separately, both bulbs and tubing are made from a blend of the best synthetic and natural rubber. Combination has bulb with metal check valve, metal connector, and 36 inches of tubing. Kodak Professional Camera Bulb No. 5 with tubing, **$2.10.** Bulb only, **$1.50.** Tubing only. Per foot (minimum order—30 feet), **20¢**

KODAK AUTO RELEASE is a delayed-action device that trips the camera shutter about 10 seconds after it is set, permitting photographer to get into the picture. Fits cameras with cable release socket. Less cable release, **$4.50**

KODAK METAL CABLE RELEASE NO. 5 with universal tip which fits most types of shutters. 7-inch length, **$1.60;** 12-inch, **$1.95**

BOWER CABLE RELEASES. Cloth covered 3½″ to 40″ with or without lock screw. Steel, locking, wing handle 20″ and 40″ for all shutters. **75¢** to **$3.50**

DE GROFF AIRWAY SHUTTER RELEASES permit camera shutter to be released by the operator from a distance as great as 100-ft. Operated through a rubber tubing by a rubber bulb. Large size Standard, straight thread, **$9;** large size Compur, tapered thread, **$9;** large-size Wollensak, **$9;** large-size Betax, **$9;** large-size Leica, **$9;** small-size Standard, **$6;** small-size Compur, **$6;** small-size Wollensak, **$6;** large-size Compur long, **$9.** Cable release model, **$9.** Special model for Graflex cameras, **$12.50.** De Groff Packed Shutter Regulator regulates Packard shutter speeds from slow to fast, makes it accurate as between-lens shutter, **$9.** Rubber bulb with 10-ft. of rubber tubing, **$2.25**

EFFEN "ARMOR-CLAD" CABLE RELEASES of Monel metal; all exposed parts chromium plated. Standard tapered threads: 6 and 8″ **$1.30;** 10 and 12″ **$1.60;** 15″ **$2;** 18″ **$2.50.** Straight thread: 8″ **$1.30;** 12″ **$1.60;** 18″ **$2.50.** Wollensak Thread: 8 and 12″ **$1.65.** For Ilex: 6″ **$1.75;** 12″ **$1.90;** 18″ **$2.65;** Leica w/set screw 8½″ and 10½″ **$2.35;** No set screw, 12″ **$2;** 15″ **$2.40;** 18″ **$2.80.** Stand, tapered w/set screw 10″ **$2;** Korelle Refl. w/set screw 11½″ **$2.10. HEAVY DUTY CABLE RELEASES** from 18″ to 74″ with finger grip: Standard tapered, straight or Ilex thread **$4.50** to **$18;** Wollensak **$4.75** to **$20.** Leica no set screw 18″ to 36″ **$5** to **$6**

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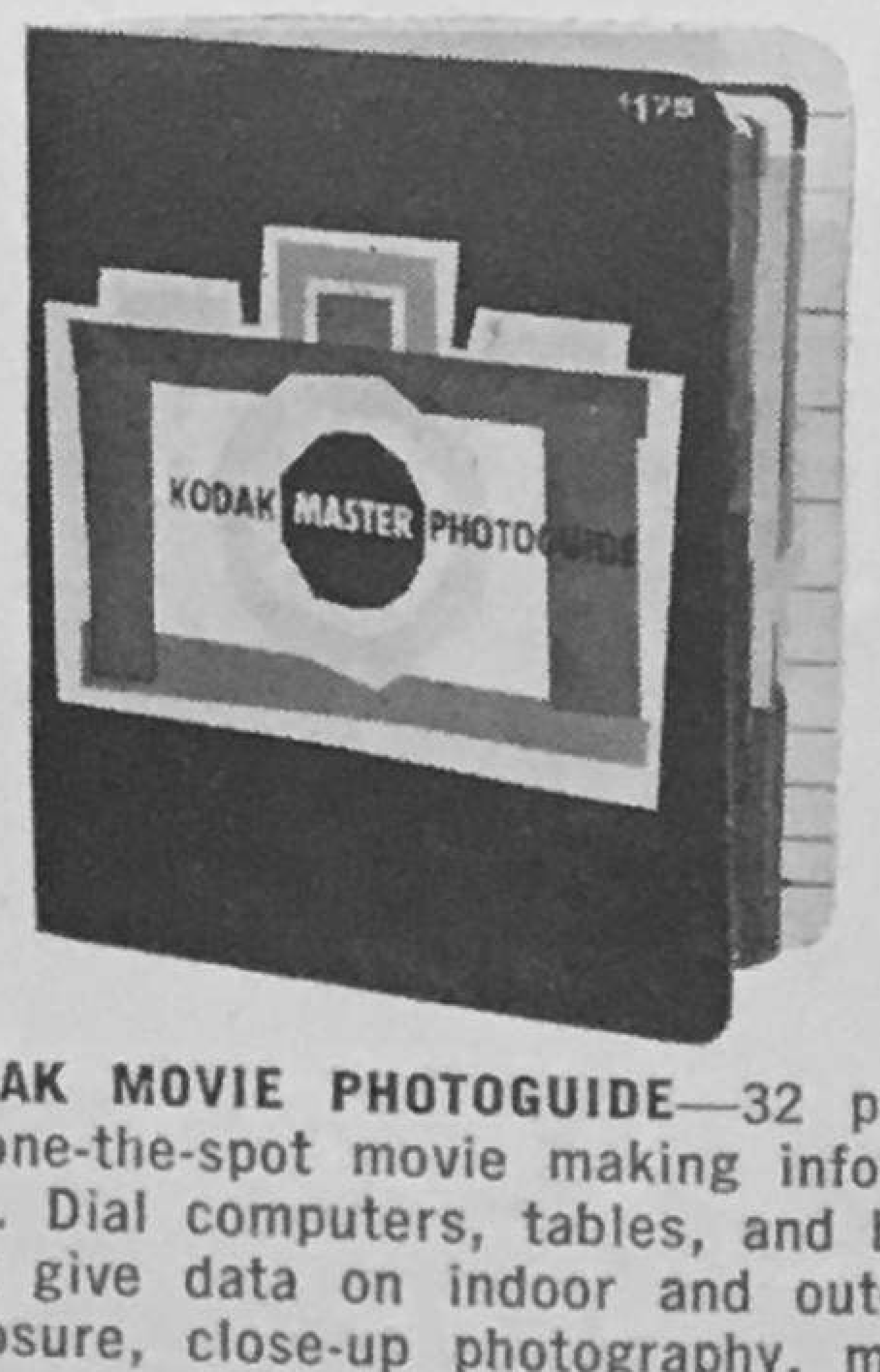
guides & data books

KODAK PHOTOGRAPHIC NOTEBOOK is an extra-large binder enabling one to tailor a photo handbook to suit individual needs. Includes backbone title strips and tabbed separator pages. Following **DATA BOOKS** are punched to fit this notebook:

Adventures in Outdoor Color Slides, 50¢
Adventures in Indoor Color Slides, 50¢
Aerial Photography, Kodak Materials for, 50¢
Basic Titling and Animation, 75¢
Better Movies in Color, 35¢
Better Snapshots of Your Children, 35¢
Brownie Book of Picturetaking, 35¢
Camera Technique for Professional Photographers, 50¢
Clicking With Color, 35¢
Color As Seen and Photographed; Component of Color Handbook, **75¢**
Color Films, Kodak; Component of Color Handbook, **75¢**
Color Photography in The Studio; Component of Color Handbook, **75¢**
Color Photography Outdoors; Component of Color Handbook, **$1**
Copying; Component of Reference Handbook 2, **50¢**
Darkroom Design and Construction, 50¢
Developing, Printing and Enlarging, 35¢
Enlarging in Black-and-White and Color; Component of Reference Handbook 2, **75¢**
Film (Black & White), Kodak; Component of Reference Handbook 1, **50¢**
Filters and Pola-Screens; Component of Reference Handbook 1, **50¢**
Flash Pictures; Component of Reference Handbook 1, **50¢**
Flexichrome Process, Kodak, 75¢
How-To-Do-It Pictures; Component of Industrial Handbook, **50¢**
How to Organize and Operate Photographic Service Departments; Component of Industrial Handbook, **50¢**
How To Take Better Kodachrome Pictures, 35¢
Industrial Motion Pictures, 50¢
Infrared and Ultraviolet Photography, 50¢
Lenses, Shutters, and Portra Lenses, Kodak; Component of Reference Handbook 1, **50¢**
Magnetic Sound Recording for Motion Pictures, 50¢
Making Service Pictures for Industry; Component of Industrial Handbook, **50¢**
Motion Picture Film, Storage and Preservation of, 50¢
Motion Picture Films for Professional Use, Eastman, $1.25
Negative Making for Professional Photographers, 75¢
Photographic Films and Plates for Scientific and Technical Use, Kodak, 50¢
Photographic Papers, Kodak; Component of Reference Handbook 2, **75¢**
Photographic Production of Slides and Filmstrips; Component of Industrial Handbook, **50¢**
Photography in Law Enforcement, $1.25
Photography of Gross Specimens, 75¢
Photography Through the Microscope, 75¢
Photomicrography of Metals, 50¢
Picture It in Stereo, 35¢
Printing Color Negatives, 75¢
Processing Chemicals and Formulas; Component of Reference Handbook 2, **50¢**
Professional Printing with Kodak Photographic Papers, 50¢
Studio Lighting for Product Photography, 50¢
Vacation Caribbean With Your Color Camera, 50¢
Vacation Europe With Your Color Camera, 50¢
Vacation South of the Border With Your Color Camera, 50¢

KODAK MASTER PHOTOGUIDE—Sturdy, leatherette-covered, pocket-size booklet containing 32 pages of helpful on-the-spot picture-taking information for still pictures in black-and-white and color. Convenient dial computers, tables, and brief text provide practical data on such subjects as determining indoor and outdoor exposure, selecting filters, computing depth-of-field, using Kodak Portra and Telek Lenses, etc. **$1.75.**



KODAK MOVIE PHOTOGUIDE—32 pages of one-the-spot movie making information. Dial computers, tables, and brief text give data on indoor and outdoor exposure, close-up photography, movie continuity, field sizes and depth for many Cine-Kodak lenses and Portra lenses, and film and filter data. Pocket-size, **$1.75**

KODAK DATAGUIDES are larger-size computers designed for use in the darkroom. Just as exposure guides help you to take better pictures, so will these easy-to-use Dataguides aid you in the processing phase of picture

NO 1270

making. **KODAK CC FILTER DATAGUIDE** shows how various Kodak Color Compensating Filter combinations for color printing can be simplified and the neutral density eliminated, if any is present. Key instructions are on the reverse side of the Dataguide and a supplementary pamphlet is included. **$2. KODAK MASTER DARKROOM DATAGUIDE** provides working information and tables for copying, processing, printing and enlarging with Kodak black-and-white materials. Aids to selection of papers and developers are given. Also included are a developing computer and an enlarging computer. **$2.95. KODAK COLOR DATAGUIDE**—a new 40 page colorful booklet which presents all the basic information needed to correctly expose, process, and print color pictures. Included are two dial computers, one which yields the correct filter pack for color printing and a second which figures printing exposure for lens aperture, magnification, and filter changes. Also in this new "tool kit" are a gray card of 18 percent reflectance, a photographic gray scale, color control patches, a 35mm standard negative and a sample color print, a set of 6 viewing filters, 9 color reproductions to show correction of poor color balance & exposure & a unique filterpack chart. Printed in 4 colors on special, varnished card stock, the Kodak Color Dataguide provides a convenient package of information & actual aids, **$4.95**

KODAK DIALS are handy, pocket-size cards which, by means of dial computers and ready reference data, quickly provide you with the right camera settings. They provide authoritative on-the-spot advice that enable you to cope with every picture-taking situation. **KODAK MOVIE DIAL**—For movies outdoors, or indoors with flood lamps, this calculator provides the correct exposures with Cine-Kodak black-and-white films and Kodachrome Film. **25¢** **KODAK SNAPSHOT DIAL**—A pocket-size calculator for black-and-white and color films. One dial gives daylight exposures for pictures outdoors; the second, exposures for pictures indoors with flash. **25¢**

camera backs

KEITH SLIDING ROLL FILM BACKS are available in three sizes, with or without a numbering device that photographs a name or number from card or negative envelope and prints it on bottom of negative. Identification of 35mm films is made between frames instead of bottom of frame. Exposure counters optional. Magazine and ground glass are permanently mounted on sliding carriage. Pickup is from an area ⅜″x1″ and the impression on the negative is a 50% reduction of the original. Fit all 5x7 view and portrait cameras except the Ansco, Corona and Deardorff. 35mm back, **$195;** w/o # device, **$125;** 70mm back, **$210;** w/o device, **$135;** 3½# (90mm) back, **$235;** w/o # device, **$145;** adapter for Ansco, Corona & Deardorff 5x7″ cameras, **$10;** adapter for all 8x10″ cameras, **$15**

KEITH CONVERTIBLE SLIDING BACKS are used in conjunction with KEITH TWIN LENS MAGAZINES with 5x7 or 8x10 view or portrait cameras. The CSL backs have ground glass and are available with negative identification device. These may be battery or AC operated. For 35 mm mags only, **$35;** for 70 mm and 35 mm, **$39.50;** for 90 mm, 70 mm & 35 mm, **$39.50;** **NUMBERING DEVICES,** Battery or AC oper., must be factory installed, ea., **$90**

KEITH STRAIGHT, REDUCING, AND SPLIT BACKS FOR VIEW AND PORTRAIT CAMERAS. Specify make and model when ordering. For 5x7 cameras, Straight 5x7 on 5x7 or Reducing 5x7 to 4x5, ea., **$24;** Split, ½ of 5x7, **$39.50.** For 8x10 cameras, Straight 8x10 on 8x10, Reducing; 8x10 to 5x7, 8x10 to 4x5, ea., **$32;** Split, ½ of 5x7, **$46.50**

camera magazines

KEITH TWIN LENS MAGAZINES are three-way backs. Three-way because they can be used on Keith Twin Lens & 5x7 Cameras, on all cameras equipped with 4x5 Graflok backs, and on 5x7 and 8x10 view or portrait cameras with CSL adapter. Made of light weight aluminum with black crinkle finish. Manual film advance, have dark slide. For 35 mm; perf. or unperf. models; 70 mm; 2¼x2¼″ or 2½x3½″ opening, ea., **$119.50;** for 90 mm w/3¼x4¼ opening, **$145.** CSC adapters, specify camera, ea., **$10**

changing bags

ACCURA CHANGING BAG is double zippered, with elastic arm bands; completely light-proof. Available in two sizes: standard for all hand cameras and roll film tanks, **$4.50;** larger size for press cameras, **$7.95**

MELROSE CHANGING BAGS are useful indoors and out. Absolutely lightproof with rubberized inner bag and silk-finished sateen outerbag. Zipper openings and snug-fitting elastic armholes permit complete comfortable handling in broad daylight. Four sizes; 4x5, **$7.30;** 5x7, **$11.60;** 8x10, **$14.20;** 11x14, **$16.70**

daylight film loaders

LLOYD DAYLIGHT FILM WINDER is an economical, convenient device designed for loading empty 35mm cartridges with bulk film. Cartridge-loading is simple and can be done in daylight. Bulk film roll is loaded into winder in darkroom or changing bag. Accepts 100′ rolls of bulk film, provides between 19 and 20 cartridges each with 36 exposures from one 100′ roll. **$6.95**

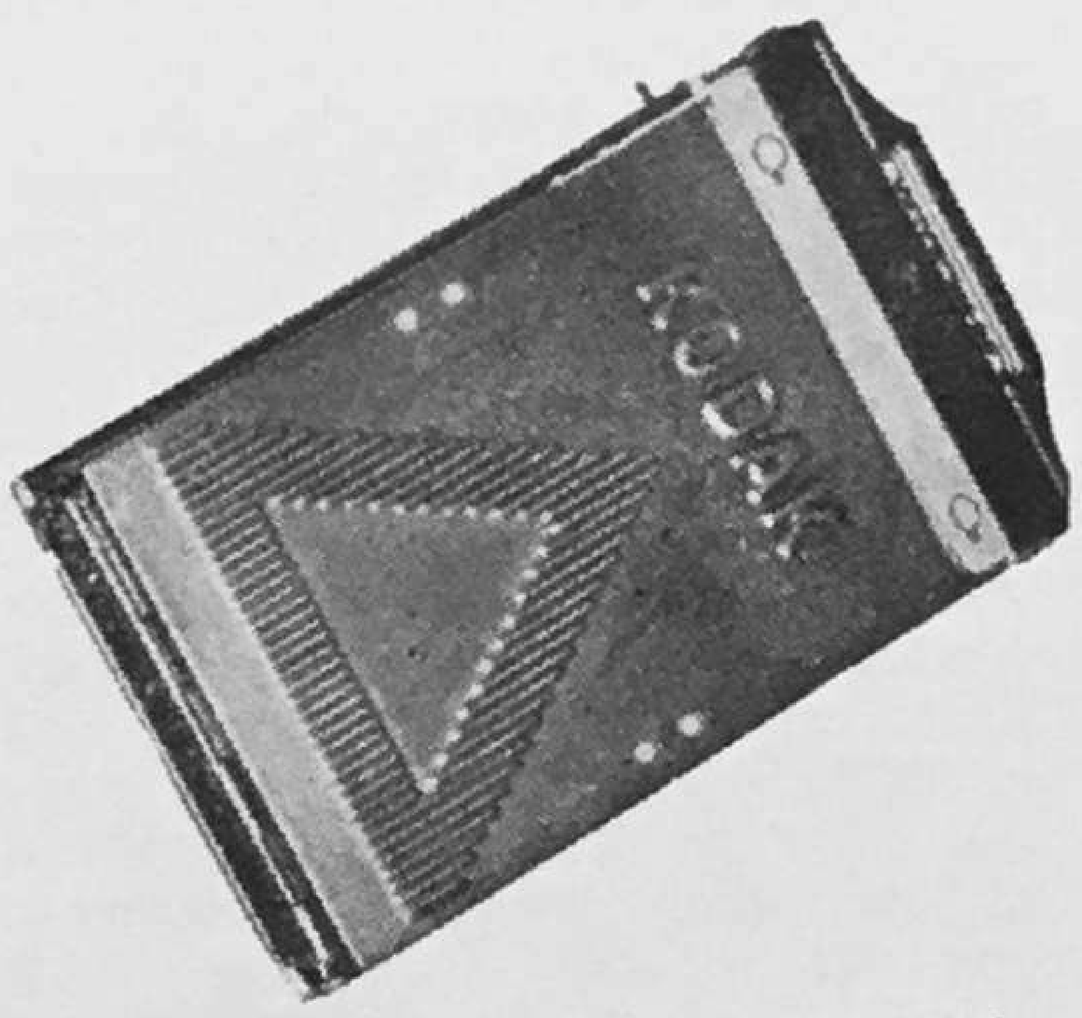
WATSON 66 DAYLIGHT FILM LOADER for 35mm bulk film reloads Eastman, Ansco, DuPont, Leica, Exakta, Contax, etc. cassettes, without darkroom. Film may be unspooled, on metal spools up to 3¾″ diameter, or on wood core. Scratchproof; loader never touches picture area. Automatic geared frame counter records actual number of exposures loaded, from 1 to 36. Money-back guaranteed. **$11.95**

WATSON 70MM FILM CASSETTE LOADER is patented daylight loading device that accepts 100-foot rolls of 70mm perforated film. Standard 70mm film cassettes slip into the housing and are loaded with 50-exposure lengths in a few seconds. Housing and wearing parts are made of special, shock-resistant plastic and highly-finished metal. Comes with film gauge, cut-off knife and safety light trap to protect film. **$59.50**

film holders & adapters

FIDELITY DE LUXE FILM HOLDER. Strong, all-metal core covered with tough composition similar to hard rubber. Shock-proof. No wooden parts. Hinged loading flaps cannot break. Thin design permits greater number in standard carrying cases. Easier and faster loading. Accurate because rigid metal core keeps holder flat; film is held exactly in focal plane. Smooth finish. Solid color goes clear through, cannot wear off. Sure-grip frame for slip-proof handling. Lightweight. Light tight. "Brass comb" light trap. Film seats itself in the dark . . . double data tabs . . . non-static . . . opaque to infrared and ultraviolet . . . aluminum septums . . . for all standard 4x5″ and 5x7″ press type cameras. 4x5″ **$4.50.** 5x7″ **$5.50.** Fidelity Holders—Standard Model, Polished cherry wood frame, 2¼x3¼″ **$4.50;** 3¼x4¼″ **$4.50,** 8x10 **$13**

KODAK FILM PACK ADAPTER adapts continental 6.5x9cm cameras to use 2¼x3¼″ film pack. Can also be used with Medalist camera, Fluorolite enlarger and Precision enlarger A. Slides easily into channels at rear of camera. Hinged back. Light-tight. Positive dark slide. **$8**



KODAK PLATE HOLDER—For Century Cameras, Century Studio Reversible Backs, and Eastman View Cameras. Hardwood construction, with black slides. 5x7″, **$14;** 8x10″, **$18**

KODAK PLATE HOLDER KIT—Reduces size of opening in standard plate holders to accept plates of smaller sizes. Will not warp, Black finish.

Outside size	Opening size	Price
4x5″	3¼x4″	$2.60
4x5″	3¼x4¼″	2.60
5x7″	4x5″	2.60
8x10″	5x7″	3.50

KODAK FILM SHEATHS adapt sheet film to most plate holders. Films are slid into sheaths which are then placed in plate holder channels. 5x7″ **$1;** 6½x8½″, **$1;** 8x10″, **$1.50**

KODAK FILM HOLDERS—For Century Cameras, Century Studio Reversible Backs, Eastman View and other cameras. Hardwood construction, all joints dovetailed. (With Kodak Holder Slides, Type 2). 5x7″, **$12.50;** 8x10″, **$17.50**

GRAPHIC RITEWAY is rugged, completely light-tight sheet film holder for standard 4x5 press cameras. Has new-type loading tabs for easy film-insertion and removal. **$4.95.** Riteway film holder with Type 2 (hard rubber) slides, **$5.15**

GRAFMATIC magazine-type sheet film holder for rapid-fire shooting has automatic exposure counter. Six septums, "red dot" signals. In models for 4x5 Graflex or Graflock backs, **$28.95;** for 2¼x3¼″, **$24.95**

GRAFLEX ROLL-FILM HOLDER converts Graphic or Graflex cameras to 120 roll. film. Automatic exposure counter; dark slide for inserting or removing from camera at any time. Model 22 for 12 exposures 2¼x2¼; model 23 for 8 exposures 2¼x3¼. For 2¼x3¼, 3¼x4¼ or 4x5 cameras, from **$27.95**

GRAFLEX AND GRAPHIC FILM PACK ADAPTERS are sturdy, light-tight, easy to use. Graflex Adapters (fit Graflex Backs): 3¼x4¼, 4x5, **$14.95.** Graphic Adapters(fit Graphic or Graflok Backs): 2¼x3¼, 3¼x4¼, 4x5, **$13.95**

HOFFMAN PROFESSIONAL CUT FILM HOLDERS are designed for maximum spring action . . . no more pushing-out of felt, or trap by the slide. Slides are constructed not to come apart, and easy to pull. Model 1A, with standard dark slide 5x7″, **$7;** 8x10″, **$15;** Model 2A, with hard rubber color slides for strobe and daylight color work, 5x7″, **$8.50;** 8x10″, **$16.** 11x14 industrial, **$27.95;** 10x12, **$27;** 8x20, **$31.95;** 12x20, **$34.95;** 14x17, **$55.** Slides for every known holder: 4x5, **$70¢;** 5x7 **90¢;** 8x10, **$1.90;** 11x14, **$3.50**

lensboards & flanges

DEARDORFF CAMERA LENS BOARDS: 3½x3½″, **$3.30;** 4x4″, **$3.40;** 4½x4½″, **$3.50;** 6x6″, **$3.90;** 6¾x6¾″, 8x8″, **$5.50;** 9x9″, **$7.** **REDUCERS:** 6x6″ to 4½x4½″, 6x6″ to 4x5″, ea., **$10.50;** 8x8″ to 6x6″, **$12.60;** 9x9″ to 8x8″, **$15**

4x4″ LENS BOARD ADAPTER takes 4x4″ lens boards, adapts view cameras to take press camera lenses for instant interchange. Choice of two sizes, 5¼″ square and 6″ square. Either size, **$14.85**

LENSBOARDS of seasoned kiln-dried hardwood, mortised for strength and rigidity. Non-reflecting finish, inside and out. 4¼x4¼″ brown, **$3;** 2½x2½″ black, **$2.40;** 3¼x3¼″ black, **$3;** 3¾x3¾″ black, **$3;** 4x4″ black, **$3;** 5¼x5¼″ gray, **$3;** 8x8″ brown, **$4.50;** 6x6″ gray, and 8x10″ brown, **$3.60**

REXO IRIS LENS HOLDER permits instant interchange of lenses, mounts directly on lens board. Does away with need for extra lens flanges and lens boards. Iris mounted to lens board holds any lens securely. Junior size, ¾x3″, **$22.50,** senior size, ¾x3¾″, **$25**

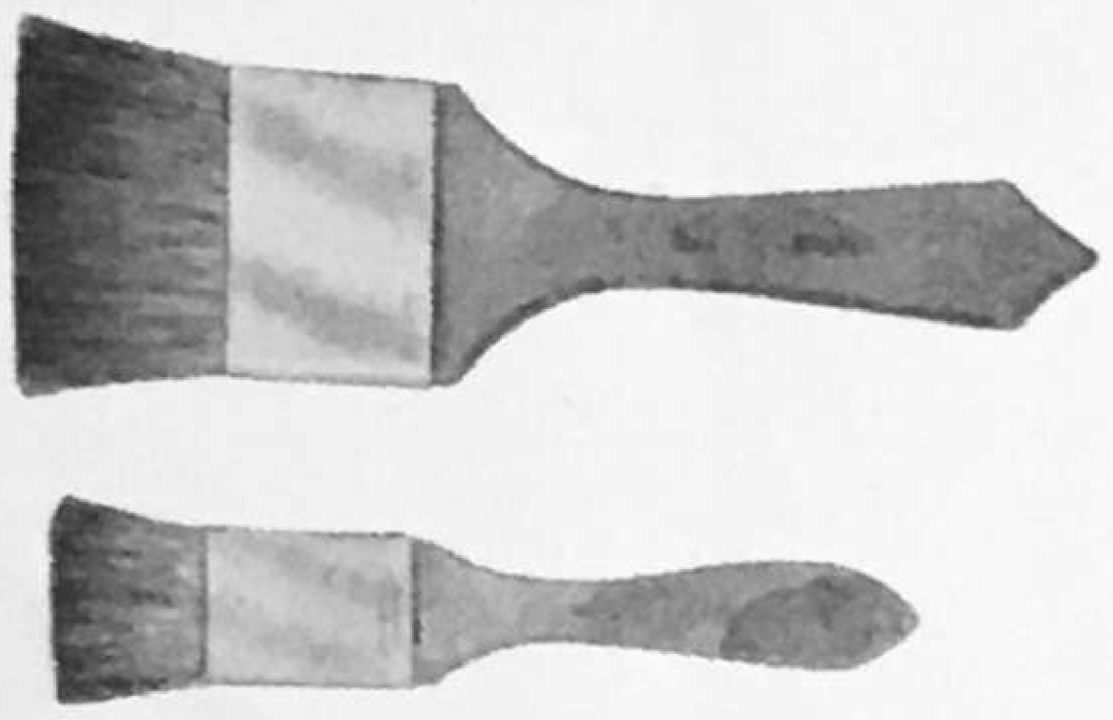
LENS FLANGES are used to interchange lenses on enlargers or cameras featuring lensboards. Precision-made, finely finished. For Leica, **$2;** for Contax with bayonet mount, **$4.50;** Korelle, **$2;** Exakta, **$2;** Kine Exakta, **$4.50;** Argus "C" type, **$1.70;** Argus 21, **$1.80;** #000, #00SL, #00SS, #00A, Compur #0SS Compur ibsor, #0SL Compur ibsor, #0A Compur ibsor, **$1.40;** #1S Compur ibsor, #1A Compur ibsor, **$2;** #11/4, 11/5, 11/6 Compur, **$3;** #3 Compound, **$4.50;** #4 Compound, **$5;** #5 Compound, **$6;** 5½″, 6½″, 7½″ f/4.5 Kodak, B&L, **$3;** Filmo C, 16mm, **$1.80;** #1 Ilex, **$1.65;** #2 Ilex, **$2;** #3 Ilex, **$3.50;** #4 Ilex, **$4;** #5 Ilex, **$6;** Primarflex, **$3.50;** Robot, **$1.50.** Hasselblad, **$24.50;** Master Reflex, **$2.50;** Praktica, **$2;** Pentacon, **$2;** Contax S, **$2;** Praktiflex, **$2;** Contax DA, **$2;** 8mm Cine "D", **$1.50;** Alphax Jr.,

continued on next page

$1.50; #1 Rapax, **$1.50**; #2 Rapax, **$3**; #3 Rapax, **$3.60**; #1 Betax, Alphax, **$1.40**; #2 Betax, Alphax, **$2**; #3 Betax, Alphax, **$3**; #4 Betax, Alphax, **$4**; #5 Betax, Alphax, **$5**; TTH Cooke, 2″, **$8**; TTH Cooke, 2¼″, **$9**; TH Cooke, 2½″ **$10**; TH Cooke, 3″, **$12**

lens cleaners & brushes

KODAK CAMEL'S HAIR BRUSHES for dusting negatives. Rubber set in metal



sleeve holds fine-quality bristles firmly. 1″, **$1.25**; 2″, **$2.25**

KODAK LENS CLEANER AND LENS CLEANING PAPER. For best picture results be sure that your camera lens is clean at all times. Kodak Lens Cleaner quickly, safely removes foreign matter from lenses, other optical glass surfaces. 1 oz. squeeze-type bottle, **80¢**; 16 oz. glass bottle, **$2.10.** Kodak Lens Cleaning Paper is soft, lintless, absorbent. Teams ideally with Lens Cleaner. Folder of 50 3x5 sheets **20¢**

DELTA BRUSHES include complete line of photographic brushes for every use. Delta Deluxe Photo Lens Brush of camel hair, is set in hardwood ferrule, attached with spring action device to genuine leather case. Just open case and brush springs into position for immediate use. Diameter 9/16″, length 1⅛″, ea., **$1.95.** ROUND CAMEL HAIR LENS DUSTER BY DELTA uses fine camel hair set in retractable gold-tone brass lipstick-type case, dia. ½″, length, 1 1/16″, ea., **$1.** FLAT CAMEL HAIR NEGATIVE DUSTER set in retractable red plastic case, dia., 1″, length 1″, ea., **$1.** DELTA PURE RED SABLE SPOTTING BRUSHES of selected sable hair set in seamless nickel ferrules on black polished handles. Available in 3 sizes A, B, C, lengths 9/32, 5/16. ⅜″, ea., **65¢** to **80¢.** MINIATURE BRUSHES size 00-6, lengths 7/37-9/16″, ea., **55¢** to **$1.40**

NUCLEAR STATICMASTER removes surface static; dust and lint vanish like magic . . . with one sweep of the brush. Neutralizing action makes Staticmaster ideal for cleaning slides and transparencies before mounting or viewing, and for cleaning negatives to prepare them for printing or enlarging. Wonderful, too, for "dusting" lenses, enlargers, printers, optical equipment. Two sizes: 3″ model, **$9.95**; 1″ model, **$4.95**: Industrial models are also available, with extra powerful polonium elements (four times stronger than photographic models): 1″ size, **$7.45**; 3″ size, **$14.95**

ROSS OPTICAL LENS TISSUES are completely non-abrasive, lintless, and free from mineral or vegetable filler. They are specifically made for cleaning optical surfaces and are now being used extensively for "electron microscopes". LABORATORY SIZE, 1000 sheets 4¼x5″, **$3**; ECONOMY SIZE, 300 sheets 4¼x5″, **$1**; TECHNICAL and GRAPHIC ARTS size, 100 sheets 8½x14″, **$1.75**; 300 sheets 8½x14″, **$4.50**

STARR DUSTER LENS BRUSH for quick-dusting of all coated lenses. Made of finest quality camel's hair. Lipstick-type container. #SC3 **$1.25**

STARR LENS GAUZE removes grease, dirt, finger marks from lenses, prisms, other optical or scientific apparatus. Can also be used for wrapping delicate instruments. Made of special lintless, non-scratching fabric. 500 sheets, 7x 11″ **$4.65.** With dust-free 3x4-7/16″ plastic container: 100 sheets, **50¢**; 50 sheets **25¢**

STARR ANTI-STATIC LENS GAUZE reduces pick-up of lint and dust on photographic lenses, eyeglasses, scientific instruments, etc. Permits Photographer to clean most expensive objective with safety. Pkg., **50¢**

numbering & marking devices

FILM DECAL TABS number sheet film at time picture is taken by action of light through film tab. Identifies negative with holder, assuring accuracy. Remains permanently in place, does not interfere with film loading or removal. Packet of 48 tabs and 48 gummed numbers, **50¢**

KEITH FILM PUNCH can be installed on any magazine in order to facilitate marking film when removal of partially exposed rolls is a frequent necessity. Indents the film approx. 2 in. from end of frame. Indentation is easily felt in dark. Leaves no loose film pieces in magazine. **$25**

KEITH NEGATIVE IDENTIFIER, used in the studio or even in daylight. Needs no special fittings or darkrooms, only an AC outlet. Supplied with a special block to be attached to camera back to block off space on negative for easier identification. 4x5″, **$15**; 5x7″, **$15**

LIGHTNING-LITE FILM NUMBERING DEVICE is errorproof, numbers 3¼x4¼″, 4x5″, 5x7″ and 2 exposures on 5x7″ sheet of film. No light leaks, no damage to holders. Plugs into 110-volt outlet. Slide doesn't even have to come out of holder, it's so simple! **$17.50.** Available in 8x10″, also providing for 2-on, **$28**

STERN DAYLIGHT NEGATIVE NUMBERING MACHINE photographs an identifying number on corner of film while it is in film holder. Numbers 12 films in 2 minutes. Sturdy wood construction; special lens; light switch; 6-ft rubber cord. Standard model, for 3¼x4¼°, 4x5″ and 5x7″ negatives; **$18**; for 8x10″ **$22.50.** Dual model, with 2 lenses, prints 2 numbers, either alike or different, on both halves of split 5x7″ film, **$22.50**

self-timers

BOWER FRAMEX AUTO-TIMER attaches to any camera which accepts a cable release. Releases shutter automatically after time delay, allows photographer to "get into the picture." With aluminum case. Model I (15-second delay) **$2.50**; Model II, 11 speeds from ½ second to 10 seconds, gives automatic time exposures on bulb. **$4**

BOWER "POLAROID" SELF-TIMER will work on all different models of the Polaroid camera and other cameras. Adjustable plunger with strong spring will give positive action. Time delay about 20 seconds. Vinyl leather. **$3.95**

BOWER SELF-TIMER for Leica and similar cameras, as well as others. Direct-coupled automatic pull-in type. Will run 18 sec. when fully wound, time adjustable. **$2.95**

miscellaneous accessories

KODAK OPALIZED GLASS is a high-quality coated glass having the same transmission and diffusion characteristics and the same permanency as flashed opal glass.

	No. shts in pkg	Price per pkg
4x5″	12	$ 6.00
5x7″	12	7.20
8x10″	12	16.80
10x12″	6	10.50
11x14″	6	15.60
14x17″	6	23.40

KODAK PROFESSIONAL FOCUSING CLOTH —Bound cloth of silk-finish fabric. 40x48″. **$3.25**

KODAK FINE GROUND GLASS is made especially for photographic purposes. It can be used to replace broken ground glass in view cameras, contact printers, viewing stand, etc.

	No. shts in pkg	Price per pkg
4x5″	12	$ 2.40
5x7″	12	3.60
8x10″	12	6.60
11x14″	6	6.60
14x17″	6	10.50

PHOTOGENIC CAMERA VIGNETTER has fingertip control from back of camera while looking at ground glass to obtain perfect vignetting—up and down, back and forth, side to side. Three vignette patterns in shapes most commonly used furnished with vignetter. Patterns can be instantly changed. Can be used on most standard studio cameras, yet permits instant removal if desired, **$40.50**

PIERCE BACKGROUNDS AND DRAPES are ideal, inexpensive and easy to use. Save time and add glamour to your photography. Excellent for both B&W and Color. Available in many styles, sizes, colors, types and prices. Backgrounds also available in many materials. See us for your needs.

ADAMS SAFEWAY BABY POSER consists of metal C-clamp, three-inch elastic belt to hold baby securely, foam rubber padded back rest. Invisible under baby's clothing, **$24.50**

CHASE POSING BENCHES are designed for formal, bridal, and glamour poses. **PRINCESS** bench is designed with one piece frame of lightweight 5 ply veneer, one piece cast aluminum legs. Ivory with gold trim. Upholstered in washable ivory Boltaflex, **$75. SWEETHEART** bench has one piece cast aluminum legs and is upholstered in washable ivory plastic. Harmonizing panel and leg trimmed in gold, **$95**

KALART SYNCHRONIZED RANGEFINDER, designed for press-type cameras, is coupled directly to camera track. Camera focusing knob moves lens and also operates rangefinder mechanism, synchronizing it with lens. Superimposed image type. Precision engineered. With couplings for most cameras **$29.95,** plus installation.

LINHOF MULTIFOCUS VIEWFINDER for 4x5 cameras; precise optical finder adjustable to show area covered by all lenses from 90mm to 360mm focal length with parallax correction and reduction of field at close distances. **$99.50**; mounting shoe, **$3**

We carry a complete

line of Camera Bags,

Cases and Accessories

TRIPODS AND STANDS

professional tripods and heads

BRUNEAU PNEUMATIC TRIPOD includes rugged camera platform, features smooth lowering of heaviest cameras by means of pneumatic tube. Single knob is turned to raise camera, released for lowering. Operating range is from 24 to 54″ (maximum height can be raised to 75″ with available extension tube). Tripod head has double-tilt adjustment providing any angle from vertical to horizontal. 360° panning. Rounded plastic leg tips slide easily without marring floors. Locking leg design for stability. Tripod measures 4x 23-1/3″ folded. eight 8½ lbs. Tubular aluminum. Model B, **$45**; less tripod head, **$33.** Tripod head only, **$12.** Adapter head, for using tripod with standard panning heads, **$4.** Extension tube, **$6.** Projector table, for using tripod as projector stand, **$12**

DAVIS & SANFORD FLOATING ACTION TRIPOD affords motionless, safe support for light cameras as well as heavy studio cameras. Crankless spring action raises and lowers 2″ diameter center post by fingertip control; knob locks it rigidly in place. Multi-directional tilting head is completely secured by vise-type grips; slot in head allows camera position to change without moving tripod or head. Made of lightweight aluminum. Model A, adjustable from 26″ to 4½ ft., weighs 10-lbs., **$81**; model B, from 39″ to 7½ft., weighs 14-lbs., **$99.** Accessory side arm with adjustable leg, for vibrationless low-point shooting. **$21.** Extension section adds 2-ft. to height of either model **$9**

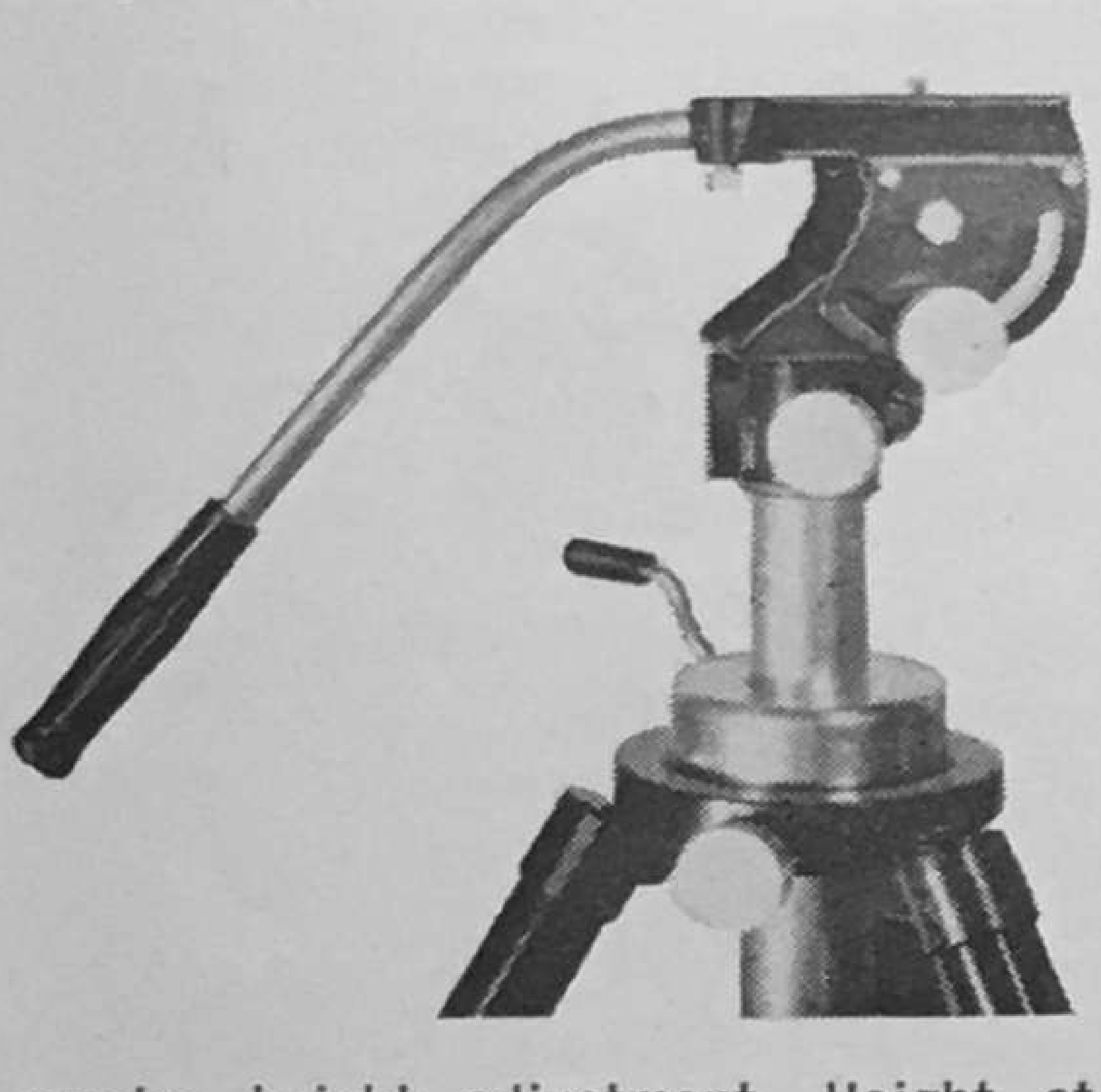
DAVIS & SANFORD MOVIE PAN HEAD is quickly and easily levelled without altering the position of the legs, by means of two thumb screws and a spirit level located at the base. Compression springs provide smooth, easy panning and tilting. Both actions have adjustable drag and can be securely locked independently of each other at any position. **$59**

GRAFLEX SPEED TRIPOD is rugged, lightweight and compact. Features "Guide-on" adapter for instant positioning of camera on tripod, 3-directional pan head with full 180 degree arc, and vertical and horizontal movement. "Extend-A-Lock" leg system for extending and locking legs with single motion. Double extension center post for quick height adjustment. Open 67 inches, closed 28 inches. Weighs 4½ lbs. and is precision engineered with rugged aluminum castings. **$24.95**

LINHOF HEAVY DUTY PROFESSIONAL TRIPOD for still cameras from 4x5″ to 11x14″ and heavy motion picture cameras. Braced twin leg sections, with instant lock extensions. Clamping top holds circular camera platform, or accessory geared center post, extension columns, and pan-tilting heads. Fully extended length (with centerpost) 88 inch; collapsed 36½ inch. Weighs 17 lbs. **$179.50.** Geared centerpost **$79.50.** 21½″ Extension Post **$34.95. LINHOF TWIN-SHANK PRO TRIPOD,** similar to above, but lighter, holds movie cameras or still cameras to 8x10″; less geared center-post and spirit level; extends to 60½″, collapses to 33½″, weighs 8½ lbs. **$119.50.** Uses same geared centerpost as above. **LINHOF LIGHT WEIGHT PRO,** for cameras up to 5x7, combines sturdy construction with amazing light weight (only 4½ lbs). Braced leg design prevents spread or slide on any surface. Sliding centerpost interchangeable with geared centerpost. Fully extended: 60 inch. Collapsed: 24 inch. Corrosion proof hydronalium with anodized satin chrome finish; **$59.50.** Geared centerpost **$29.50. LINHOF DELUXE STUDIO TRIPOD MODEL B** for cameras to 5x7″, has 3 sections. Built-in locking clamp for camera positioning from floor to full tripod extension. Legs are extended and firmly braced by "umbrella-type" struts which are locked to provide rigid stand that can neither slide nor collapse, even on slippery surface. Extends to 73″, collapses to 29½″, weights 7 lbs. **$69.50**

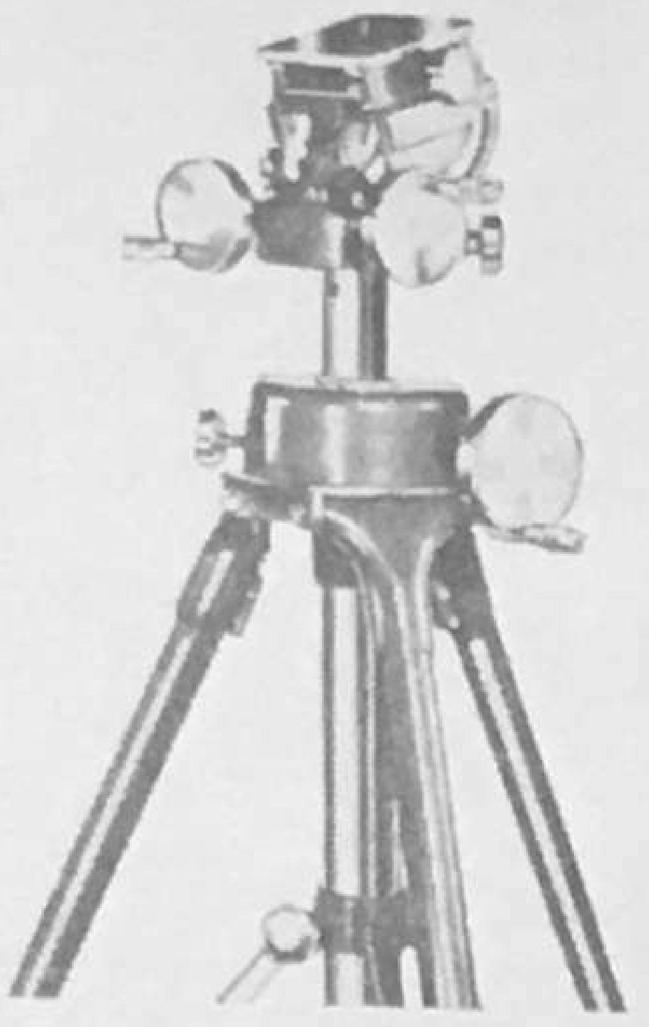
LINHOF PRECISION TRIPOD HEADS fit all standard tripods, have 360° pan with scale, tilt with scale. Built-in spirit levels. REPORTER PANHEAD for cameras up to 4x5, $14.95; PRECISION PANHEAD with separate brake and lock for tilt and pan, $21.95; PROFESSIONAL PANHEAD, with gyrating handle which can be locked in most convenient operating position. $39.50; DeLUXE PROFESSIONAL PANHEAD, same as above, for heavy cameras, $69.50. PRECISION TILT HEADS (with pan), $11.95, $15.95; HEAVY DUTY TILT HEAD $49.50.

QUICK-SET SAMSON PROFESSIONAL TRIPOD for studio or location use with 8x10, 16mm, and closed-circuit TV cameras. High strength aluminum construction combines rigidity and light weight. Worm gear-driven Elevator for precise height adjustment. Height at full spread 76″ maximum, 38″ minimum (11″ with Lo-Hi unit). Weight 11 lbs. #7401 Samson with friction head, **$110; #7441 Samson with Still Camera Head, $105; #7601 Samson Dolly, $38; #7701 Samson Lo-Hi Unit, $35; #7801 Samson column extension, $15**

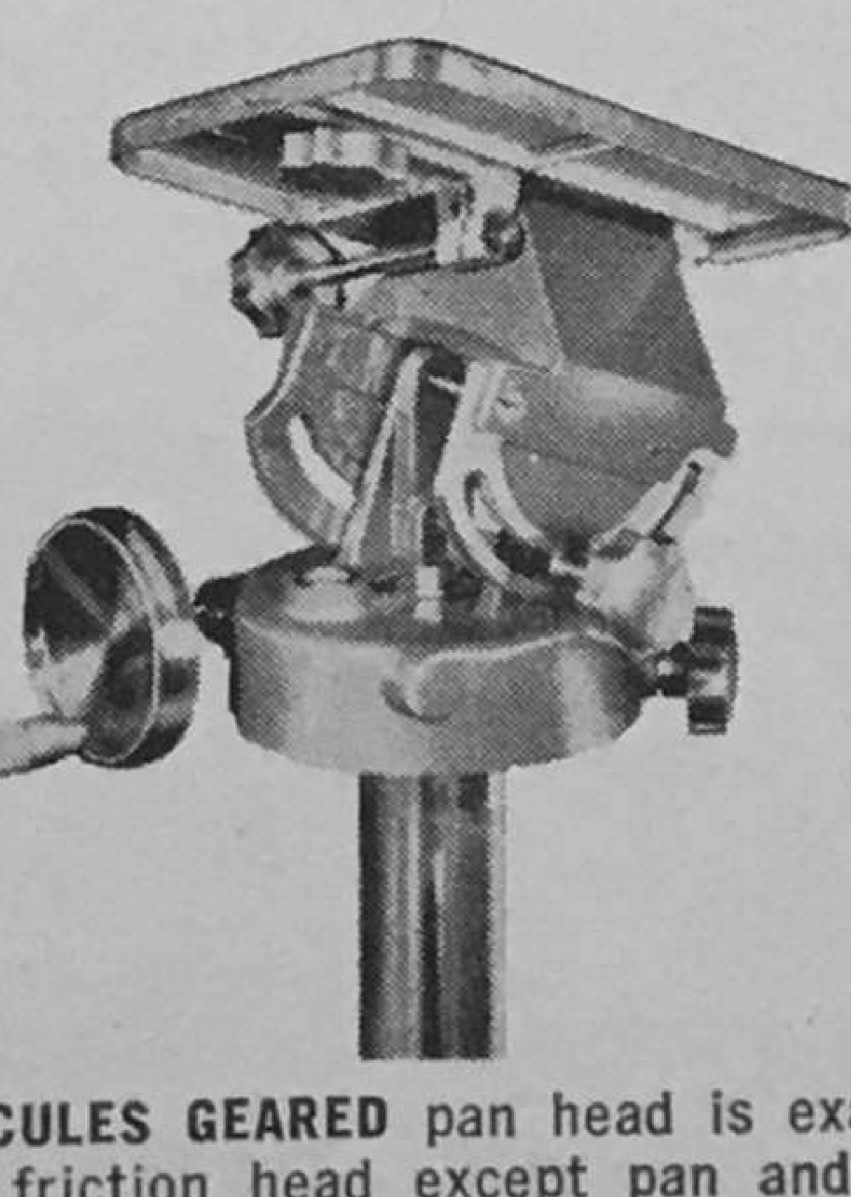


SUPER QUICK-SET TRIPOD is a universal Elevator camera support. Quick-Lock Connector permits rapid attachment of accessories. Elevator has 2-way control —can be lifted up or pushed down for fast action or adjusted to any height with hand crank, and locked. Half-turn locks or unlocks legs fitted with non-slip rubber tips. Strong rigid construction with exceptionally light weight. Suitable for cameras to 5x7 where portability is the primary consideration. **HUSKY** has 3-section legs, extends to 78″, telescopes to 28½″, weighs 8½ lbs., Price **$49.50. HI-BOY** has 4-section legs, extends to 94½″, telescopes to 29″, weighs 7½ lbs., Price **$57**

QUICK-SET INDUSTRIAL TRIPODS for scientists, technicians, plant photographers provide rigid support, nimble maneuverability, maximum capacity and minimum weight. All metal construction avoids warping, shrinking or binding, 2-sec. tubular legs have shake-free joints with easy working locks, adjust quickly for length. Fitted with non-slip, no-mar foot plates. Struts connect legs to center tube for maximum stiffness. Worm gear-driven Elevator column gives micrometer height adjustment quickly and easily. **HERCULES** has 18″ Elevator rise, choice of 3 pan heads (see pan head section for details) handles 75 lb. working load. Height 78″ max. 40″ min. (min. height "O" with LO-HI UNIT) Weight 26 lbs. **HERCULES ELEVATOR TRIPOD** with **STILL CAMERA** head **$265.**; with **FRICTION** head **$245.**; with **GEARED** head **$295. LO-HI UNIT** supports cameras on side arm adjustable any height down to floor, raised and lowered by Elevator mechanism. Same pan head mounts on Elevator column or side arm. Tripod telescopes with unit attached. Height adjustment of side arm 38″. Additional Elevator rise. 12″ Weight 9 lbs. Price **$85. GIBRALTAR** has 20″ Elevator rise, geared pan head. (see pan head section for details) Handles 200 lbs. working load. Height 100″ max. 52″ min. Weight 59 lbs. **GIBRALTAR ELEVATOR TRIPOD** with **GEARED** head **$675**



QUICK-SET INDUSTRIAL PAN HEADS tilt and pan on ball and roller-bearings, insuring smooth effortless movement under heaviest loads. Locks provide adjustable drag or secure head motionless. Torsion springs on tilt counterbalance camera. Camera plates covered with elastic non-slip material. Heads fitted with precision levels. Quick-Lock Connector attaches pan head to tripod with one screw, permits rapid interchange of heads. **HERCULES STILL CAMERA** pan head has friction pan, geared tilt. Camera plate 6½x8½″ with 20° left and right tilt. Vertical tilt 45° up, 90° down, gear ratio 1:129. Pan 360°. Height 7½″. Weight 7 lbs. **$120 HERCULES FRICTION** pan head has fore-and aft sliding camera plate to center camera. Control handle adjustable for length and angle to any position. Camera plate 4x4″ slides 3½″ forward or back. Tilt 45° up, 90° down. **Pan** 360°. Height 6¾″. Weight 7 lbs. **$100.**



HERCULES GEARED pan head is exactly like friction head except pan and tilt motions are operated by worm-gear drive, and control handle is omitted. Camera plate 4x4″, adjustable 3½″. Tilt 45° up, 90° down, gear ratio 1:129. Pan 360°, ratio 1:96. Height 6¾″. Weight 7 lbs. **$150. GIBRALTAR GEARED HEAD** for use with larger, extremely heavy cameras or instruments has same design features as Hercules heads, but with all units larger and stronger. Camera plate 8x10″. Tilt 60° up, 60° down, ratio 1:129. Pan 360°, ratio 1:196. Height 8½″. Weight 18 lbs. **$375**

camera dollies

BEATTIE STUDIO DOLLY features maximum mobility and fingertip control. Swiftly raises and lowers camera, rolls smoothly on rubber wheels. Fits any base mounted studio camera. Of sturdy steel and aluminum, quickly collapses for storage or transportation. **$225**

DAVIS & SANFORD WHEEL DOLLY FOR MOVIES has ball bearing wheels, swivel locks, brakes and cable guards. Fits all Davis & Sanford tripods **$69**

LINHOF DELUXE GEARED PROFESSIONAL DOLLY carries cameras up to 8x10″ mounted on heavy duty tripods; wheels can be fixed for straight travel or released for change of camera position. Geared mechanism changes spread of dolly for use in narrow aisles, etc., or to fold for transportation. **$239.50**

LINHOF LIGHT WEIGHT FOLDING DOLLY weighs only about 3 lbs, folds conveniently for taking to location; rubber-tired wheels can be locked for straight travel or released for quick change of camera position. For cameras up to 4x5″, **$38.50**

QUICK-SET TRIPOD DOLLIES have quick-acting clamps for rapid attachment of Quick-Set Industrial Tripods. Tripod legs adjustable without unclamping. Y construction permits working in close quarters—dolly will pass through 30″ door. Casters have Neoprene tires and 3-way swivel control for 1—free swiveling, 2—locked parallel for 2-track travel, and 3—locked parallel for 3-track travel. Foot-operated brakes lock rolling and swiveling simultaneously. HERCULES DOLLY has ⅞x4″ casters. Diameter 45″, height 7″ folds to 7x13x 28″, weight 16 lbs. Capacity 200 lbs. **$95.** GIBRALTAR DOLLY has 1-⅜x5″ casters. Diameter 57″, height 9″, folds to 35½x17¼x11½″, weight 36 lbs. Capacity 300 lbs, **$215**

camera stands

DEARDORFF COMMERCIAL SERIES CAMERA STANDS: Four sizes: 8, 10, 12 & 14′ high, made especially for DEARDORFF COMMERCIAL SERIES CAMERAS but can be used with DEARDORFF VIEW type by changing counterweights. Bed can rotate 360° with camera attached. Sturdy locks control all movements. Ball bearing, rubber tired casters permit ease of movement and control of vibration at any camera position. Uprights of seamless steel tubing, cast iron base and legs. Bed controlled by worm and gear & chain and gear drives. 8′, **$685**; 10′, **$730**; 12′, **$775**; 14′, **$820**

DEARDORFF PRECISION COPYING STANDS for DEARDORFF Enlarging Reducing and Copying Cameras are made of angles and bars that are diagonally braced. Extreme rigidity and light weight permit easy moving. 4′ hardwood camera carriage has wheels that roll on stand tracks. 30x40″ tilting wooden copyboard may be easily removed. Lock holds camera in desired position. Center of focus screen approx. 4′6″ above floor. Leveling screws on each leg. 10′ long, **$515**; 12′, **$550**; 15′, **$605.** Casters, elevating and locking mechanism installed on any of above, **$63**

DEARDORFF PORTRAIT CAMERA STAND is 4′3″ high, can lower lens center to 36¾″ from floor or raise it to 62½″. Gear operated 60° bed tilt; 5″ rubber tired casters; rack & gear elevating. **$575**

DEARDORFF HANDI STANDS come in two sizes, 6′ & 8′. Sturdy tripod base with vertical tube rising from center. Camera support bed can revolve, tilt and swing for best results. Easy rolling casters. Specify camera when ordering. 6′, **$104**; 8′, **$110**

LINHOF DeLUXE CAMERA STAND. Heavy, yet easily moved in position; for cameras up to 11x14. Heavy-duty geared center column rotates for quick camera positioning. Solid star-shaped base has built-in casters, rolls on studio or plant floors. Built-in padded tray for convenient holding of extra lenses, film holders, accessories. Clamping top of center column holds accessory pan and tilt heads, additional geared extension column, or 21½″ solid extension columns listed below. Full extension 55″; with additional geared centerpost 81″; lowest position 31½″; **$299.50** Outrigger elbow for horizontal extension (used in combination with extension column or geared centerpost) **$28.50**

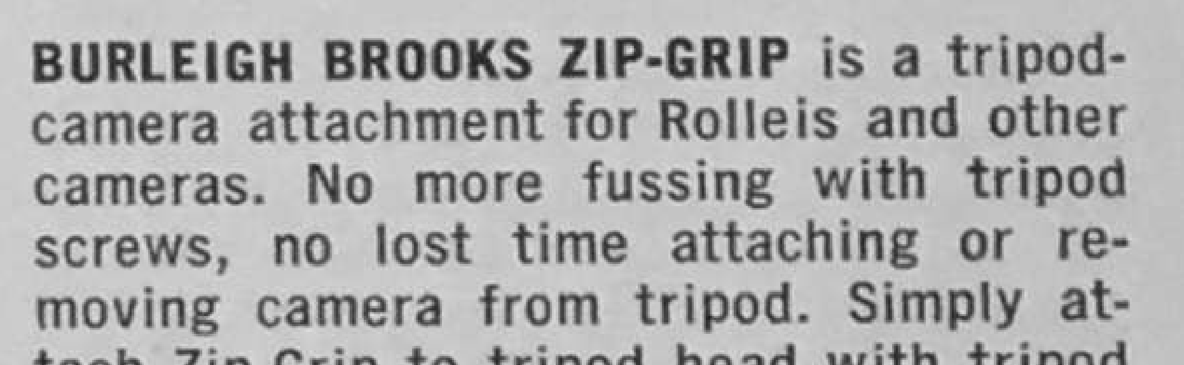
REMBRANDT MASTER STUDIO STAND for Studio Cameras is heavy duty, rides on ball bearing rollers with stop jack. Counter-balanced camera platform is raised and lowered by handwheel at side, tilted by crank at rear; both movements geared. Complete with two convenient compartments for film holders. 57″ high, 34″ wide, 30″ deep. Weighs 133 lbs. Platform 17x30x¾″. Elevates from 21″ to 49″, tilts 54° forward, 6° back. Racks hold 8 holders each. **$299.50**

camera clamps & grips

BOWER CLAMP POD fastens securely by means of vise-like clamp, has head that revolves and tilts in all directions, accommodates most still and movie cameras. Has built-in tripod socket; extra screw attachment for affixing to trees, fences, other wood surfaces; can be carried in pocket or gadget bag. **$3.95.** Leather case, **$1**

BURLEIGH BROOKS ZIP-GRIP is a tripod-camera attachment for Rolleis and other cameras. No more fussing with tripod screws, no lost time attaching or removing camera from tripod. Simply attach Zip-Grip to tripod head with tripod screw and leave it there. To mount camera, zip lever to one side, opening jaws, place camera on top, and zip lever to closed position. Can be operated in dark. Wonderful time-saver, **$4.95.** Rolleifix tripod head with quick locking camera mount, **$5.95.**

KODAK FLEXICLAMP is a one piece die-cast "C" type bracket small enough to fit in pocket, which substitutes for a tripod. Supports small camera or flash extension units. Attaches easily to flat of tubular surfaces up to 2″ thick. Two separate swivel connections permit vertical or horizontal positioning at any angle. Triple-threaded screw for rapid tightening; standard tripod screw. **$7.50.**

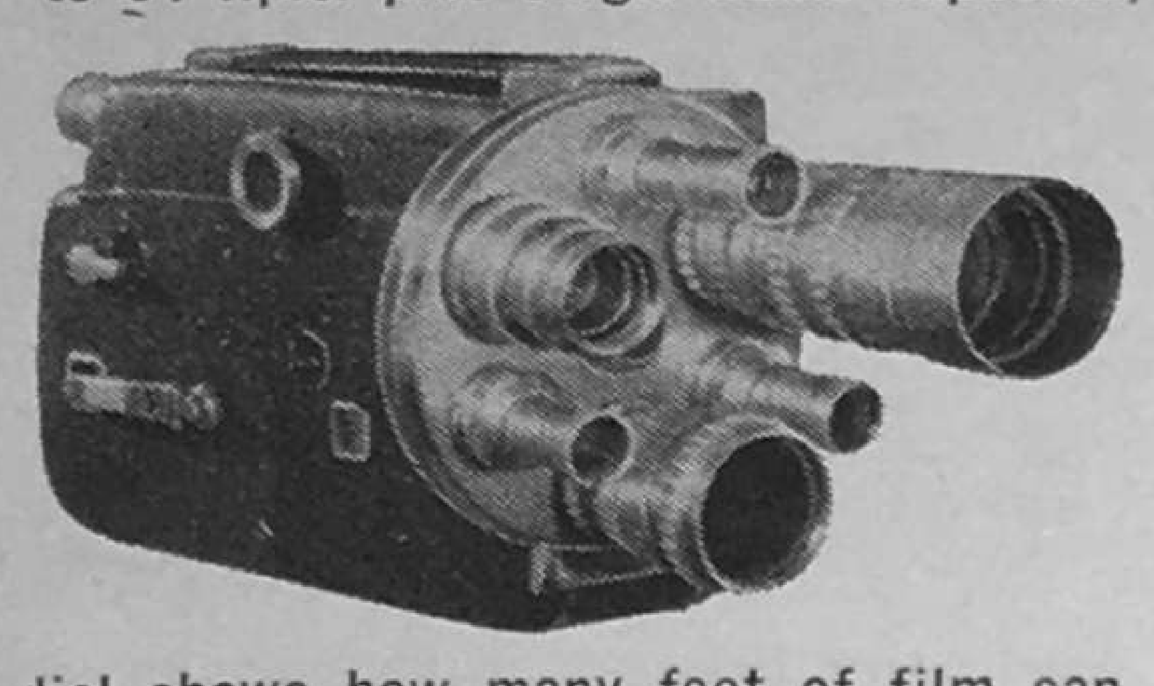


LINHOF CLAMPOD, with heavy vise and reversible wood screw, holds heavy 4x5 cameras rigidly on ladders, posts, doors, etc., or attached to fence, trees. Double ball-joint permits aiming camera in any direction. Weighs 22 ozs. **$21.50**

16mm MOTION PICTURE EQUIPMENT

roll film cameras

CINE-KODAK K-100 AND CINE-KODAK K-100 TURRET CAMERAS Precision engineered and superb Kodak Cine Ektar Lenses make these roll-film models outstanding. Both have the unequalled ability to pull 40 feet of film with one winding. Other highlights include: Quick, easy loading with 50- or 100-foot rolls or single- or double-perforated film; full speed range from 16 to 64 f.p.s. plus single-frame exposure; dial shows how many feet of film can be run at any time without rewinding; film footage indicator; acceptance of wide-angle and telephoto lenses, 15 to 152mm, without optical or mechanical interference. Interchangeable telescopic finders for each lens show area outside of picture field for action-following ease. Cameras accept auxiliary electric-motor drive shaft, and an auxiliary hand crank for multiple exposures, fades, dissolves, and other special effects. Cine-Kodak K-100 Camera with 25mm f/1.9 Ektar Lens, **$299;** with 25mm f/1.4 Ektar lens, **$407.** Hand crank, **$21.50.** Motor drive shaft, **$13.50.** Field carrying case, **$21. CINE-KODAK K-100 TURRET CAMERA** (illus.) with 25mm f/1.9 Ektar Lens, **$337;** with 25mm f/1.4 Ektar Lens, **$445.** Hand crank, **$21.50.** Motor drive shaft, **$13.50.** Field carrying case, **$23;** compartment case, **$49.50**



BELL & HOWELL 16mm ELECTRIC EYE CAMERAS. Revolutionary fully-automatic movie camera. An "electric eye" automatically adjusts the lens iris to varying indoor or outdoor light conditions. Assures correct exposure even though subject moves from light to shadow during the scene. A warning signal in the viewfinder indicates when there is not enough light for good movies. Current for the photoelectric cell and the motor that moves the iris is supplied by powerful mercury cell batteries that will last a year or more and can be replaced easily and inexpensively. **LENS:** 20mm f/1.9 in focusing mount. Adjustments for all film speeds from ASA 10-50; film footage indicator; single frame and continuous-run lock; manual operation without automatic exposure control when desired. Handsomely finished in black vinyl and satin chrome. **MODEL 240EE:** Spool-loading camera. Accepts 100-ft roll film. Automatic film-threading. Long 32-ft. film run each fast crank wind. Spring motor reserve power indicator. 5 speeds, 8 to 48 f.p.s. Cable release socket, **$329.95. MODEL 200EE:** Magazine loading camera. Load prethreaded magazines in 3 seconds. 12½ ft. film run. Fast ratchet wind. 5 speeds 16—64 f.p.s., **$329.95.** ACCESSORIES: Dispatch case for 200 EE, **$29.95.** Sheath case for 240EE, **$19.95.** Combination case for 240EE, **$34.95.** 2½x telephoto attachment lens, **$89.95.** 1½x WA lens attachment, **$59.95**

BELL & HOWELL "70" SERIES 16MM MOVIE CAMERAS have all the features necessary for advanced work. 3-lens turret accepts all "C" mount lenses, is gear-coupled to viewfinder turret. Takes 100-ft. spools of single or double perforated film. 22-ft. film run. Speeds, 8 to 64 f.p.s. 1″ viewfinder objective included. **MODEL 70DR:** with 1″ f/2.5 Comat fixed focus lens, **$386.50;** with 1″ f/1.9 Super Comit in focusing mount, **$410.50;** with 1″ f/0.95 Angenieux in focusing mount, **$553.05. MODEL 70HR:** Same as 70DR, with shutter stabilizer, and Veeder footage counter. Adapted for external magazine and electric motor (extra). With 1″ f/1.9 Super Comat lens in focusing mount, **$670.95;** with 1″ f/0.95 Angenieux in focusing mount, **$813.50. Model 70SR:** Similar to 70HR, but operates at 128 f.p.s. only. For extreme slow-motion work. With 1″ f/1.9 Super Comat lens in focusing mount, **$559;** with 1″ f,0.95 Angenieux in focusing mount, **$701.55. ACCESSORIES:** 400-ft. magazine for 70HR and 70SR, including spool and cores, **$162.50.** Electric motor drive, 115V, AC-DC, **$142.** Combination case, **$52.95**

PAR 4-LENS TURRET RACKOVER for Bell & Howell Series 70 camera accommodates simultaneously 4 Cine-Ektar lenses in C-mount adapters or equivalent C-mount lenses, including a 15mm wide-angle and 152mm telephoto lens with sunshade, without optical or mechanical interference. Flick of wrist required for shift of desired lens to shooting position. Positive turret indexing mechanism assures centering of desired lens; once positioned, turret cannot be moved unless manually released. Makes possible automatic, simultaneous changing of camera and finder fields by rotating turret, provides full frame, parallax-free, ground glass focusing through taking lens. During shooting, dual-purpose viewfinder system provides optical viewing through standard Bell & Howell viewfinder objectives mounted in turret adjacent to corresponding taking lenses. Viewfinder can be used as ground glass focuser without using rackover. Dual power (7X and 20X) magnification is provided for both optical viewing and ground glass focusing. Rackover, **$497 ($509.50** for 70-DA); filter slot, **$84;** offset eyepieces for viewfinder, **$35;** C-mount adapters, **$10.50;** custom-fitted case, **$59.50**

NCE TRIGGER GRIP is made to fit all Filmo 70 series cameras and the Filmo-240 and 240TA camera. Spring loaded trigger shutter release depresses a hook extension over the top of the camera to operate standard camera button. **$29.95**

BELL & HOWELL 240 16MM CAMERAS accept 100 ft. single or double perforated film. 32 ft. film run, crank-wound, accept any standard C mount lens. Single frame and continuous run lock; 8, 16, 24, 32, 48 f.p.s. filming speeds. **240A,** single lens. With 20mm f/2.5 Sunomatic fixed focus, **$199.95.** With f/1.9 in focusing mount, **$244.95; 240T,** two-lens turret. With fixed 20mm f/2.5, **$239.95;** f/1.9 focusing, **$264.95. 240TA** 3-lens turret, 1″ f/2.5 fixed, **$279.95;** f/1.9 focusing, **$304.95;** f/0.95 focusing, **$447.50. 240Z** with 17-68mm f/2.2. B&H-Angenieux zoom lens. **$599.95.** B&H Angenieux f/2.2 17-68mm zoom focusing lens with through-the-lens focusing. C-mount. Carrying case, threaded front and rear lens caps, filter adapter, retaining ring, **$429.95**

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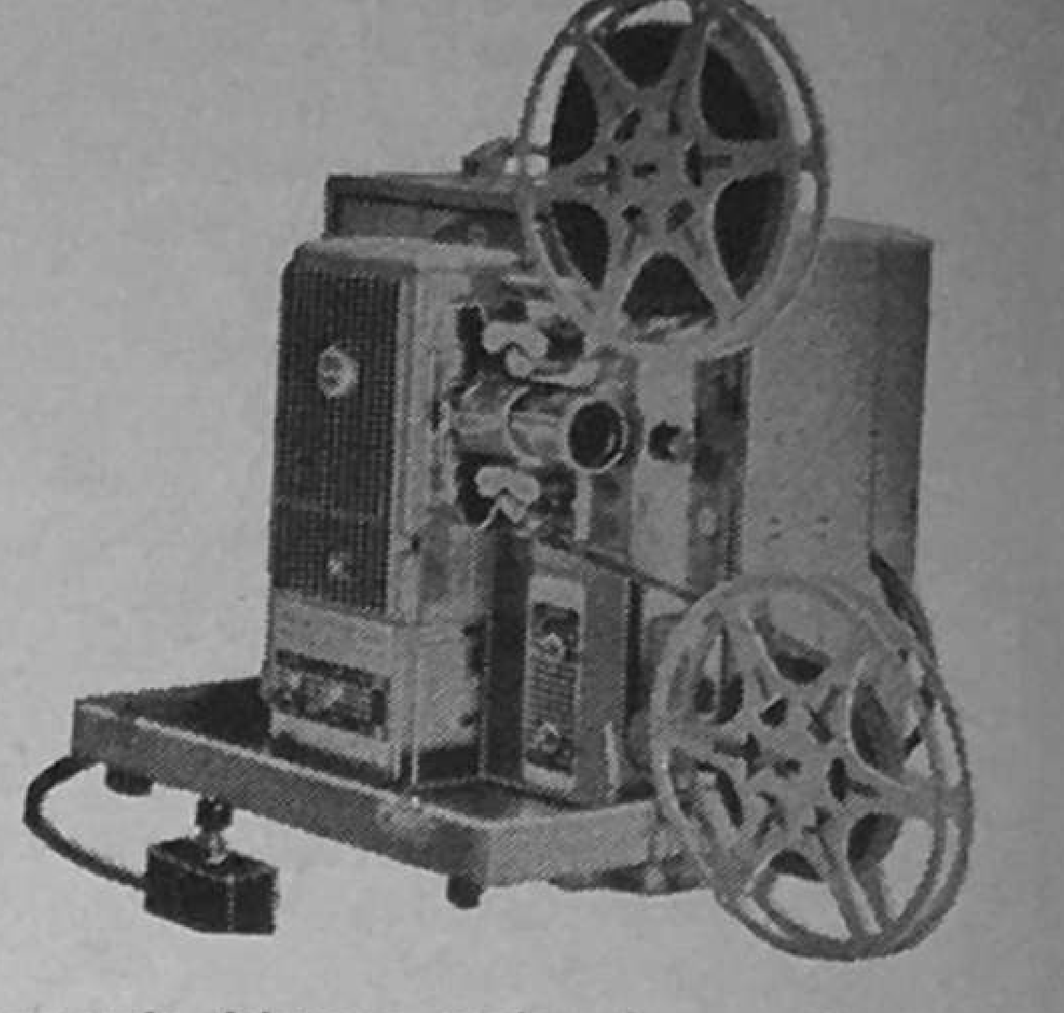
magazine load cameras

BELL & HOWELL AUTOMASTER is three-lens turret 16mm camera with standard "C" mount lenses. Accepts 50 ft. magazines. 5 speeds, 16 to 64-fps. Runs 12½ ft. per winding. Lens-matching viewfinder objectives. Built-in exposure guide, ratchet-type key winding; single frame exposures; continous run lock. Black scuff-proof finish, satin-chrome trim. With 1″ Comat fixed-focus f/2.5 **$239.95;** with 1″ Super Comat f/1.9 in focusing mount **$289.95;** with 1″ f/0.95 Angenieux in focusing mount, **$412.50. TWIN AUTOLOAD,** similar, but with two-lens turret, which takes B&H 20mm Sunomatic lens. With 1″ Comat fixed-focus f/2.5 **$219.95;** with 1″ Super Comat f/1.9 in focusing mount **$244.95;** with 1″ f/0.95 Angenieux in focusing mount, **$367.50.** AUTOLOAD, similar, but single-lens model. With 20mm f/2.25 Sunomatic lens, **$174.95;** f/1.9 **$199.95**

CINE-KODAK ROYAL MAGAZINE MOVIE CAMERA is a precision-made 16mm magazine-load camera with many fine features. Loads in just 3 sec. with "pre-threaded" film magazines. Switch films anytime. Single winding exposes about 10′ of film. **LENS:** 25mm Kodak Ektar f/1.9 focusing from 1′; interchangeable. **SPEEDS:** 16, 24, 64. Has zoom viewfinder for lenses from 15mm to 152mm focal length. Built-in exposure guide. Single frame exposures for animation, continuous-run lock **$198.** Case **$15.50**

silent projector

KODAK ANALYST MOVIE PROJECTOR is designed specifically for close study of 16mm movies. It enables frequent reversal of direction of film so that viewers may make detailed study of action on the screen. Variable speed rheostat and governor-controlled motor drives film-moving mechanism, permits instantaneous starts and reverses and projection speeds from 6 to 24 f.p.s.

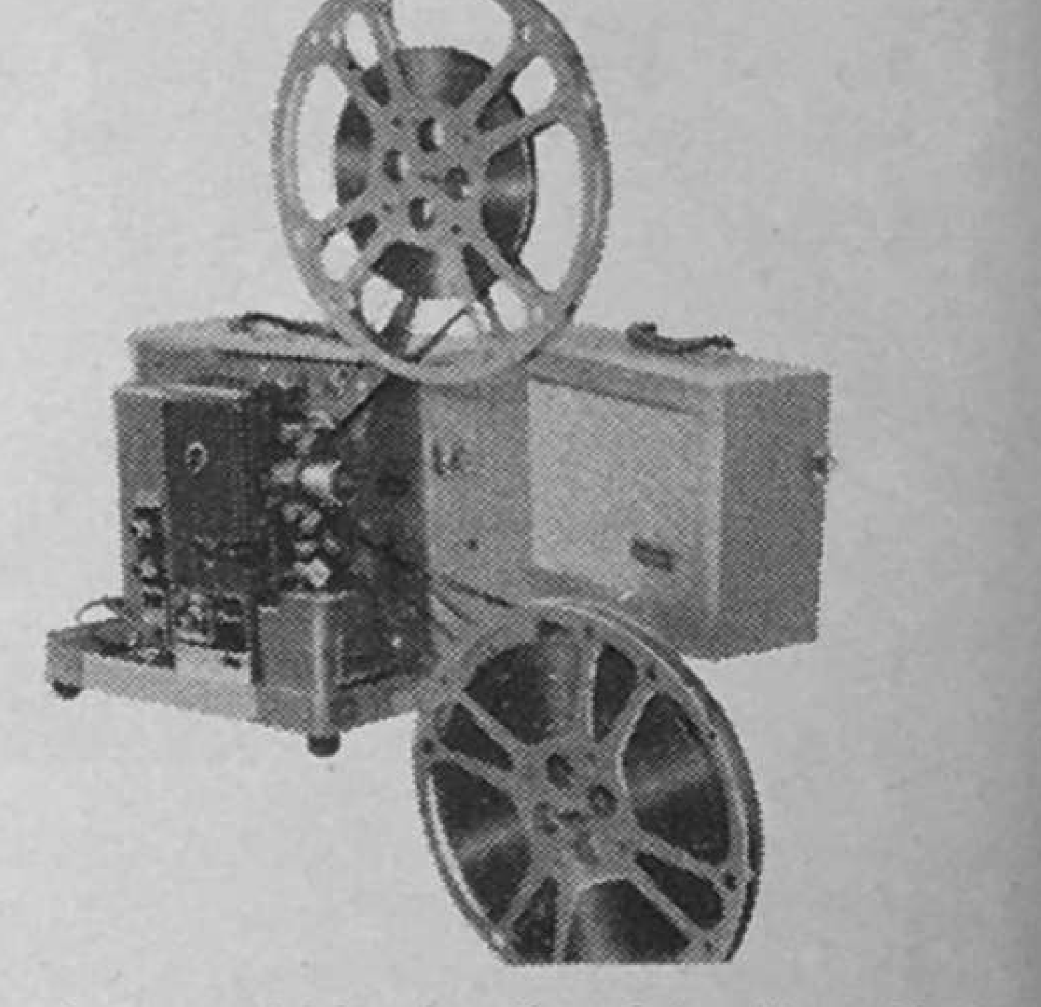


Separate blower motor for cooling system. Remote reversing switch allows operator to control machine without having to sit behind it. "Analyst" features built-in viewer, which reflects projected image on a rear-view screen; thus projector and viewer can be set on convenient table so operator can study picture in close detail. 400-ft. reel carrying case, **$398.50**

◆

sound projectors

KODAK PAGEANT SOUND PROJECTOR, Model 8K5, is new model offering high-quality features plus low price. Features new improvements in sound reproduction, projector design and appearance. Has powerful 8-watt amplifier; tone and volume controls; 9x6″ oval speaker in baffled enclosure, assuring excellent frequency response.



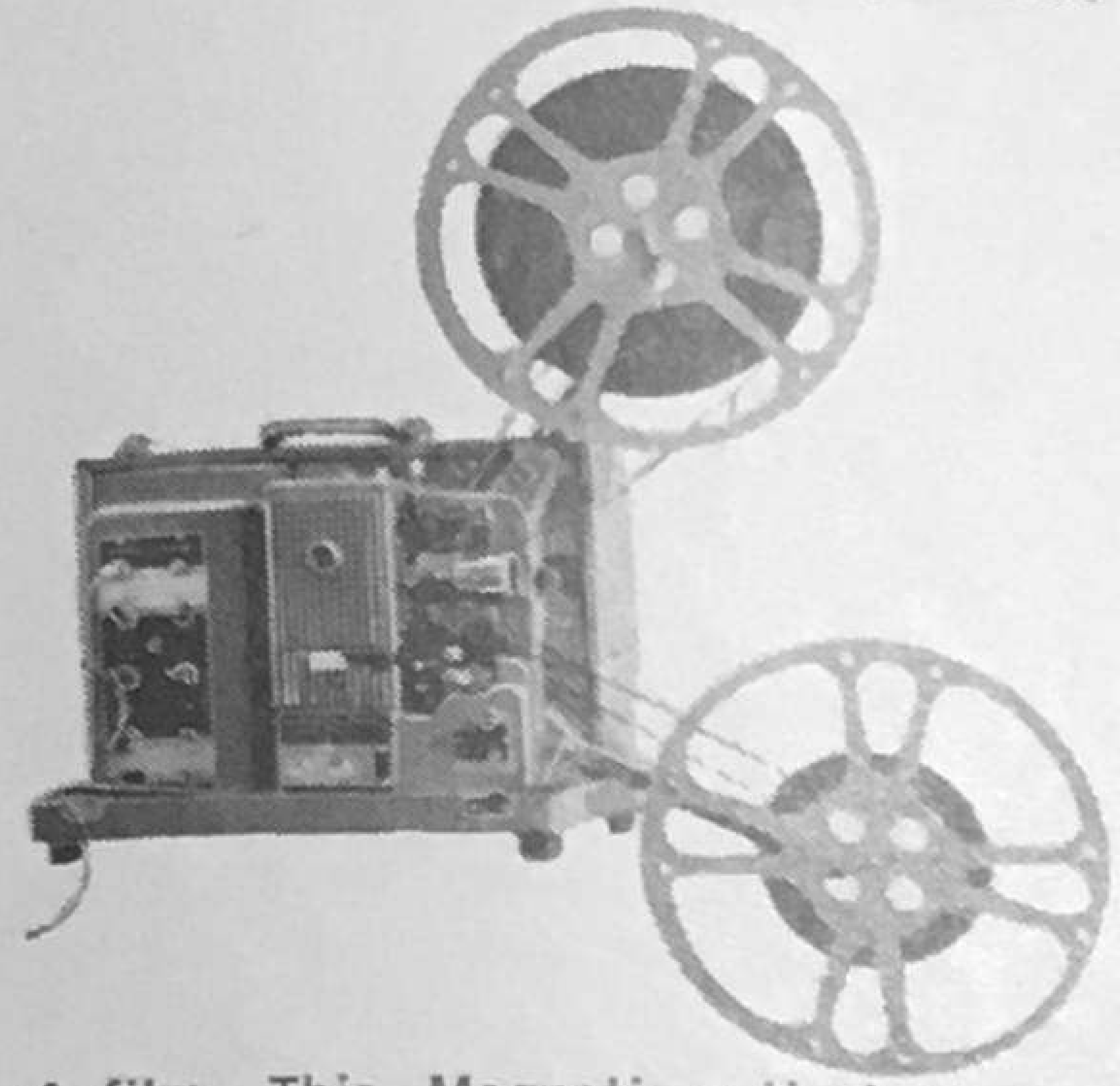
Tungsten carbide tooth virtually eliminates film pulldown wear. **LENS:** 2″ f/1.6 Kodak Ektanon. 1½″, 3″, 4″ lenses and Kodak Bifocal Converter available as accessories. **LAMP:** 750-watt. Also accepts 1,000-watt. The 8K5 offers easy set-up and maintenance-free advantages of other Pageant models, including single switch control, choice of sound or silent speeds, folding reel arms, complete factory prelubrication, 25′ speaker cord and 8′ power cord. Microphone and phono input accessories available. Compact, too, just 10-3/16x14½x13″. Complete with durable wood case finished in textured tan; beautifully styled with gold anodized speaker grille, metal corners and bands. **$459.** Protective cover with pocket for 1600 or 2000′ film reel, **$13.95**

KODASCOPE PAGEANT SOUND PROJECTOR, MAGNETIC-OPTICAL MODEL MK5 permits addition of background music and narration to business and industrial films without special equipment.

HIGH SPEED MOTION PICTURE PHOTOGRAPHY LAMPS

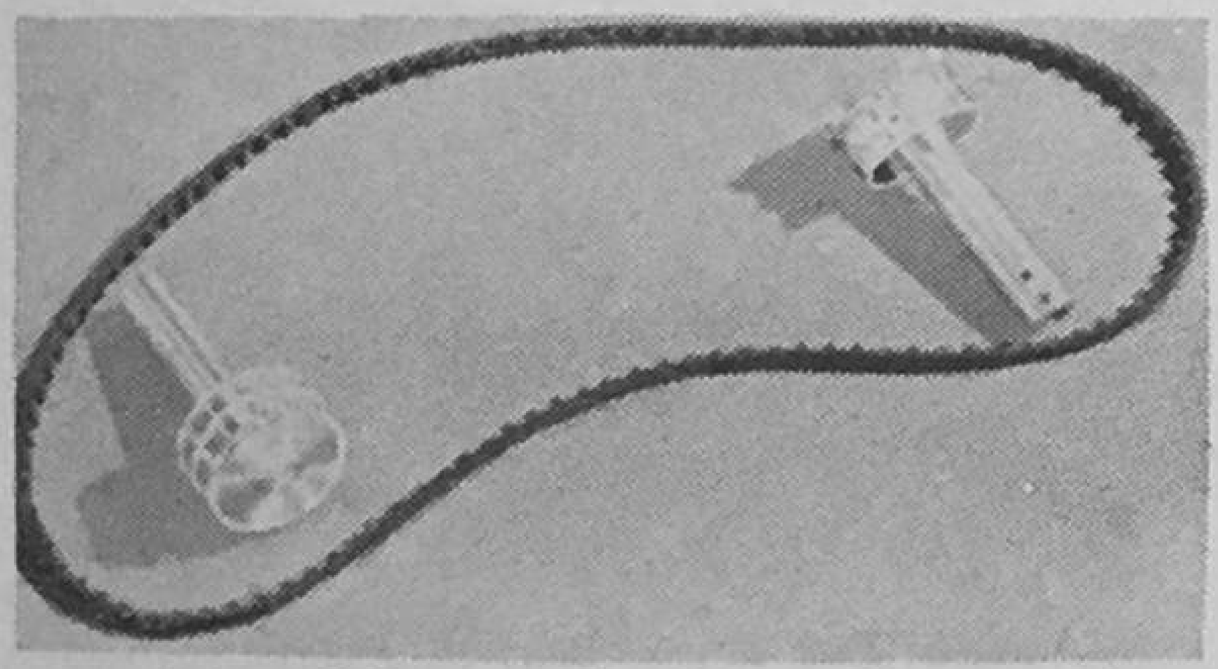
Number	Volts	Bulb	Base	Watts	Description	Filament	Approx. Hours Life	Overall Length	Price Each
FF-33	4½-45	A-23	Med.	—	Hi speed Photo	Flash	—	5 15/16	$2.35
DXA-PH/300R/1	28	R-30	Med.	300	Refl. Photographic	CC-6V	4	5 3/16	3.10
BFJ-PH/750R	115-120	R-40	Med.	750	Refl. Photographic	C-11	6	6⅞	4.50
DXB-PH/RSP2	115-120	R-40	Med.	500	Refl. Photo Spot	CC-2V	6	6½	1.85

Combines the principles of a tape recorder and a movie projector into one compact, portable unit which makes sound movies inexpensively. First, make a conventional 16mm silent film, then have an inexpensive magnetic striping added, and finally record narration and background music in your own office or plant. Narration can be erased and re-recorded at will, or small sections of sound track can be changed. A magnetic track can also be added to a sound film with a conventional "optical" track. Especially useful in changing the sound track of in-plant production and sales training films for different employee groups, in altering narration to direct sales films to specific markets. Magnetic striping costs only approximately 2.8¢ per foot



of film. This Magnetic-optical projector has all the features of the Kodak Pageant line, including an extremely low level of projection noise to reduce interference during recording. Microphone is supplied and proper recording volume can be pre-set. Mistakes are easily corrected by reversing and re-cording. A record player, tape recorder, or other sound source can be plugged in for direct recording. Has a built-in "mixer" system which enables recording of both music and narration. Lock with a removable key prevents accidental erasing of sound track. Red warning light goes on automatically when the projector is erasing and recording. Operating controls are conveniently located. Reel arms are attached to projector and fold for storage. Has an 8″ speaker in a lift-off baffle cover and is pre-lubricated. **$895.** 35 ft. Speaker Extension Cord. Type B-Telephone Type **$7.50;** Type A-Jones Type, **$9.50;** Cine-Kodak Bifocal Converter, **$28.50**

KODAK 2-PROJECTOR SYNCHRONIZING KIT FOR PAGEANT SOUND PROJECTORS

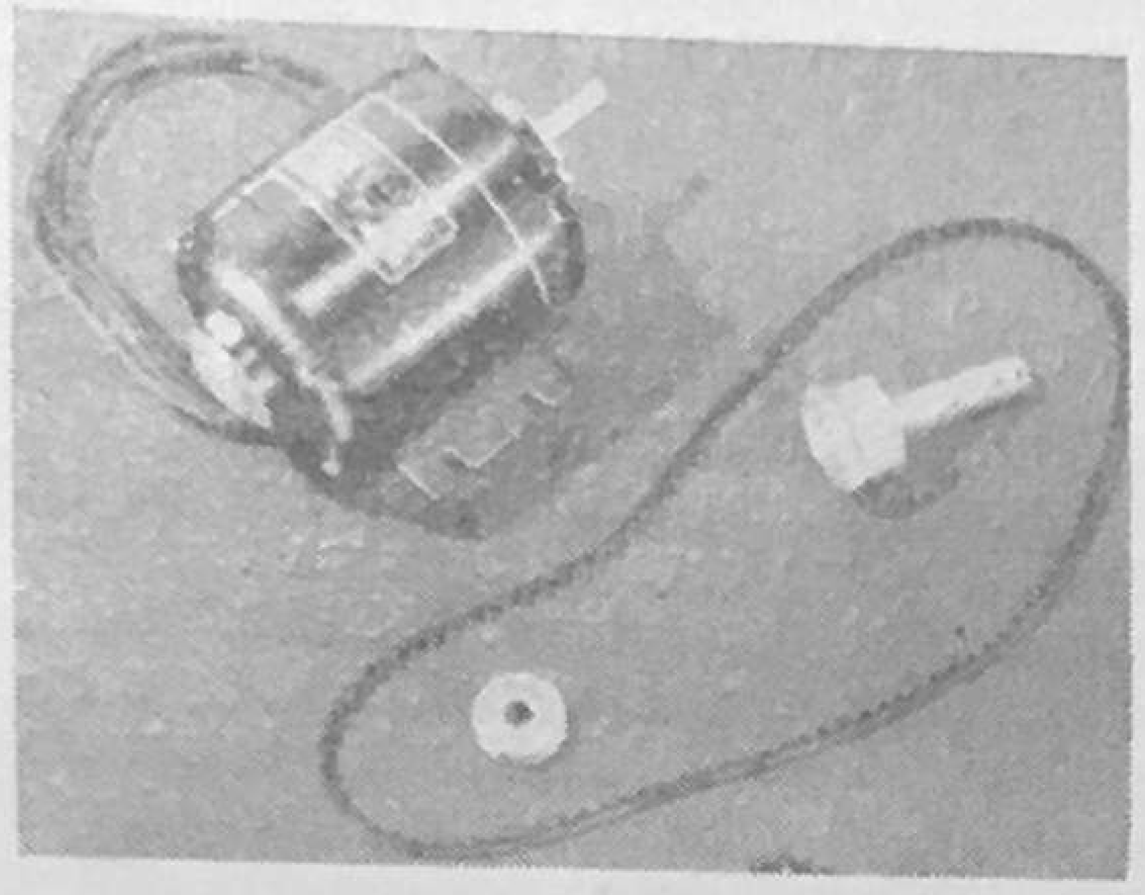


consists of two projector pulleys and a timing belt. Permits interlocking two projectors to run "in step," **$42.25**

KODAK SYNCHRONIZING BRAKE KIT FOR PAGEANT SOUND PROJECTORS enables user to control the speed of the projector to a precise 24 frames per second using the stroboscopic pattern

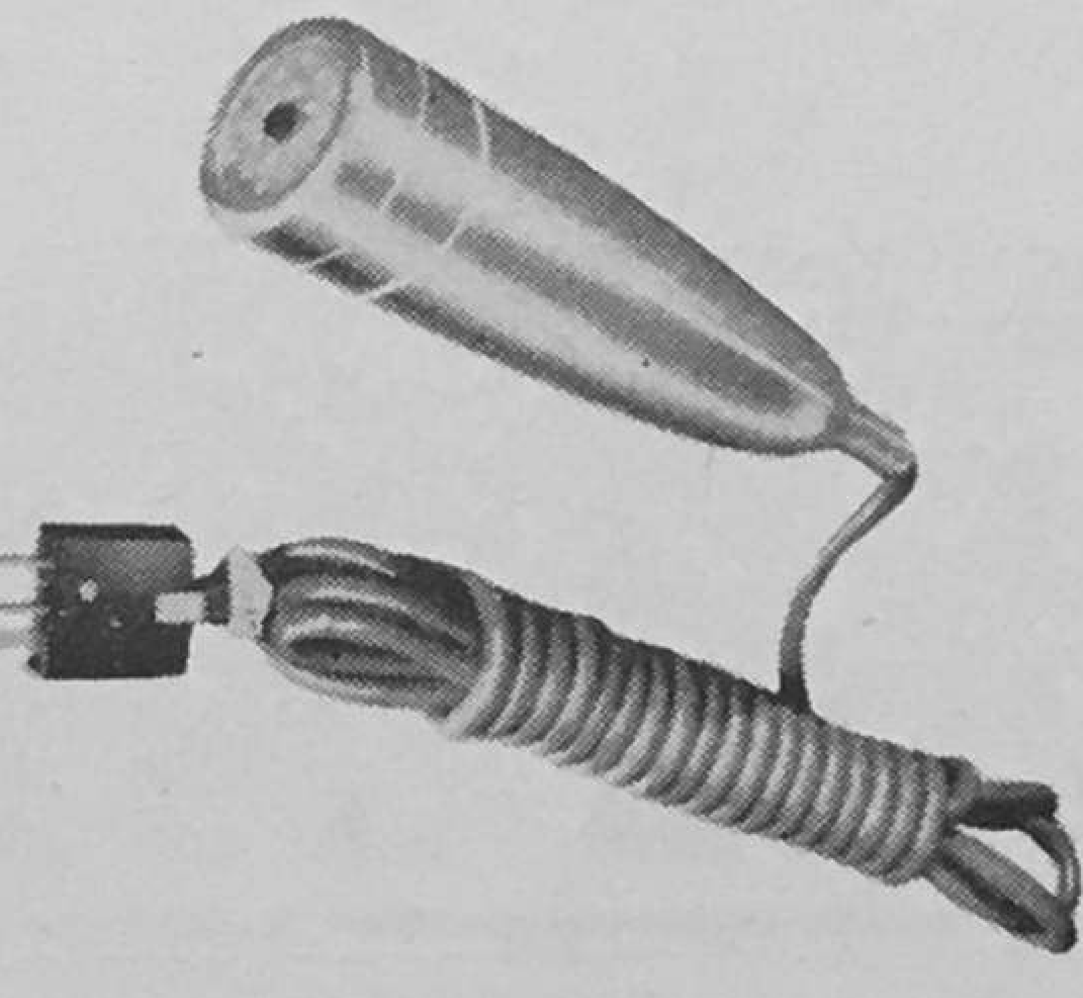
(furnished) in conjunction with a neon lamp, fluorescent lamp, or ordinary 15 or 25 watt tungsten lamp, operating on 60-cycle a.c. Kit consists of a nylon spool and a braking strap with thumb-screw. After kit is attached to projector, desired speed is easily attained by adjusting the thumb-screw with resultant pressure on spool, **$14.50**

KODAK SYNCHRONOUS MOTOR KIT FOR PAGEANT SOUND PROJECTORS operates as a control device to maintain the operating speed of the projector at exactly 25 frames per second over a line voltage of 105-125 volts 60 cycle A.C.



No modification of the internal mechanism of the projector is necessary. Kit consists of 1800 rpm synchronous motor, motor pulley, projector pulley, and timing belt, **$86.75**

KODAK MICROPHONE, MODEL PA-6 FOR PAGEANT SOUND PROJECTOR, Models 1, 7K2 and 8K5. Crystal cartridge sealed against moisture. Designed for convenient hand holding, **$17.50. KODAK**



35-FOOT SPEAKER EXTENSION CORD, Type A, for Pageant projectors. Complete with Jones-type connectors **$9.50,** or telephone-type connectors, **$7.50**

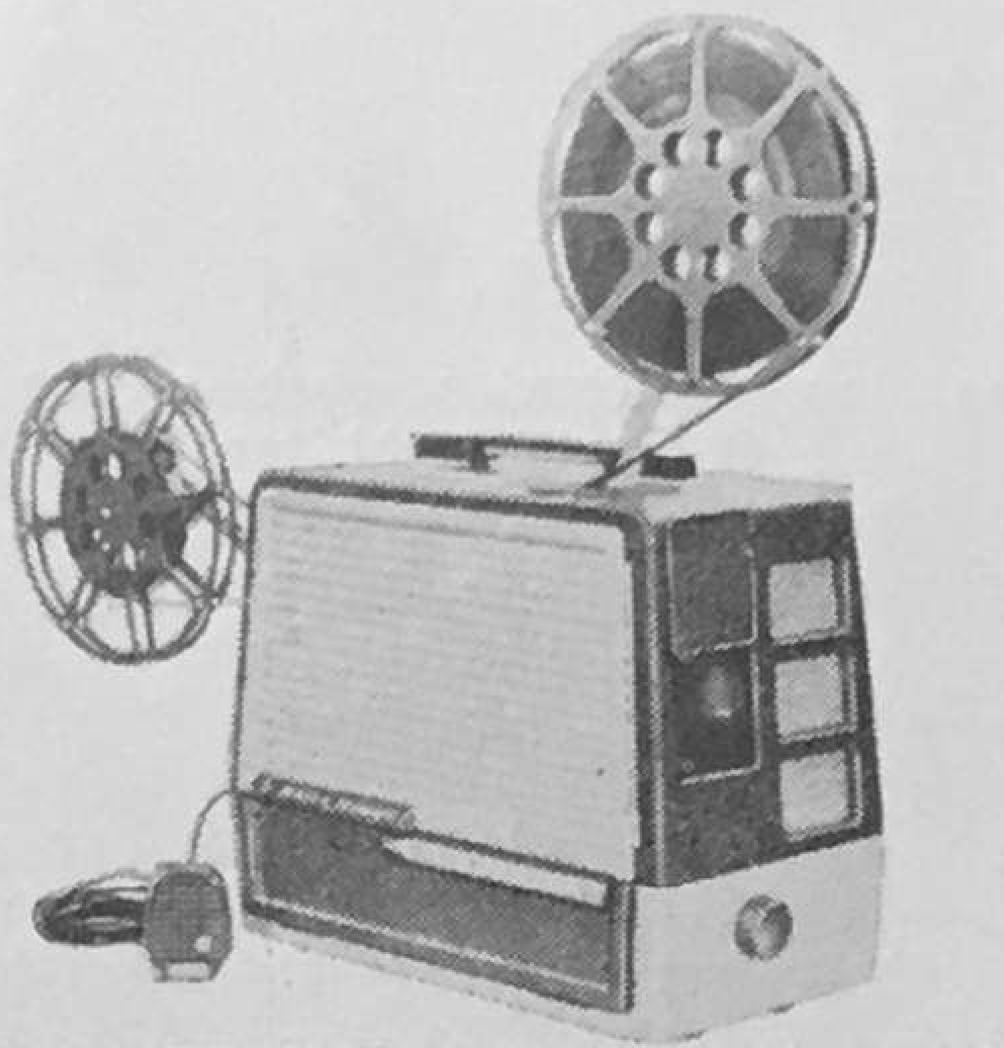
RUNNING TIME OF MOTION PICTURE FILM

16mm Sound Film—Sound speed: 24 frames per second = 36 feet per minute.

Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.
1	—	1⅔	12	—	20	60	1	40	700	19	26⅔
2	—	3⅓	13	—	21⅔	70	1	56⅔	800	22	13⅓
3	—	5	14	—	23⅓	80	2	13⅓	900	25	—
4	—	6⅔	15	—	25	90	2	30	1,000	27	46⅔
5	—	8⅓	20	—	33⅓	100	2	46⅔	1,100	30	33⅓
6	—	10	25	—	41⅔	200	5	33⅓	1,200	33	20
7	—	11⅔	30	—	50	300	8	20	1,300	36	6⅔
8	—	13⅓	35	—	58⅓	400	11	6⅔	1,400	38	53⅓
9	—	15	40	1	6⅔	500	13	53⅓	1,500	41	40
10	—	16⅔	45	1	15	600	16	40	1,600	44	26⅔
11	—	18⅓	50	1	22⅔						

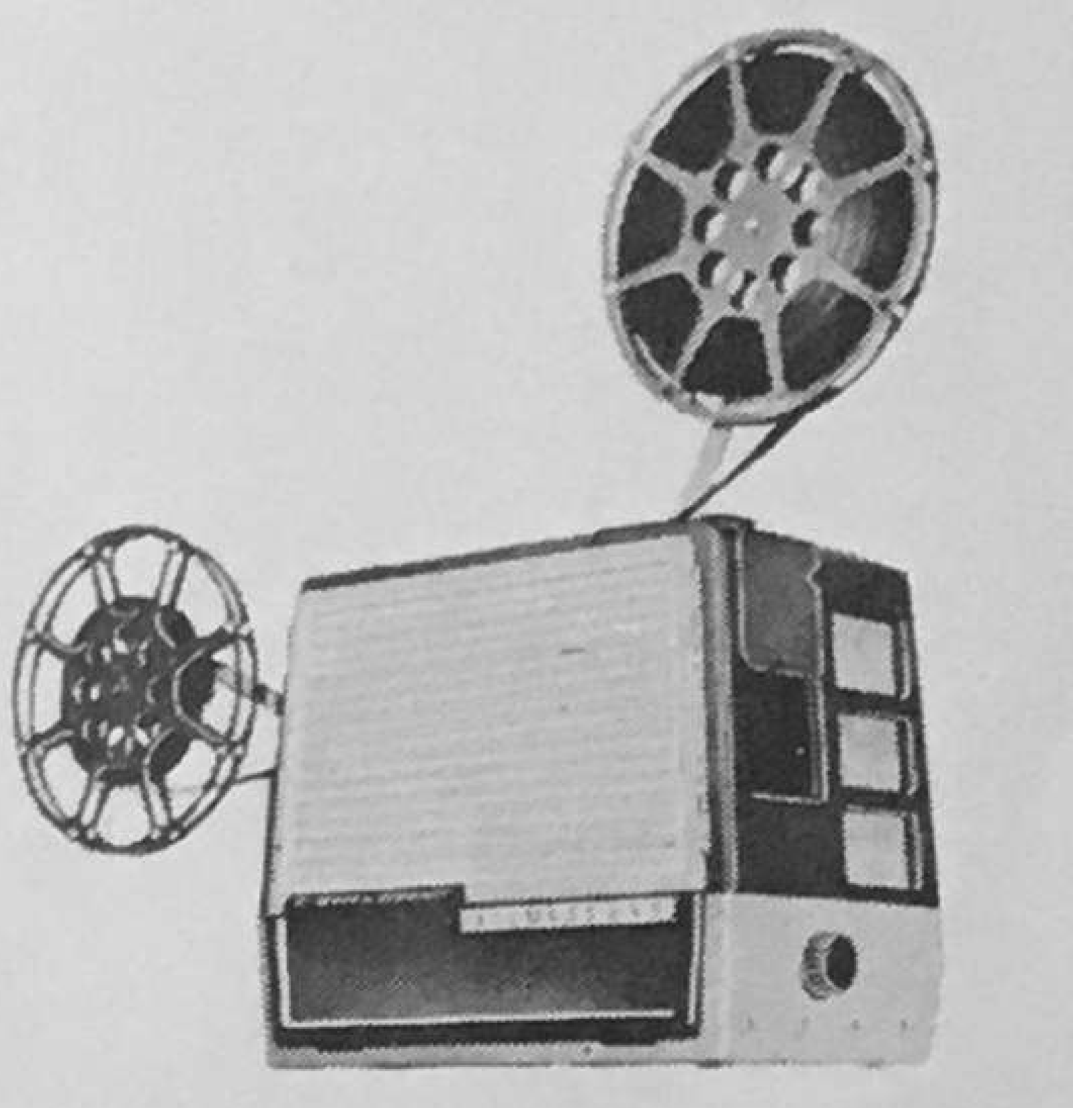
Courtesy of Photo-Lab-Index

BELL & HOWELL FILMOSOUND 302 PROJECTOR is a magnetic recording sound unit which, with SOUNDSTRIPE, adds high fidelity sound track to any 16mm silent or sound film. No sound processing is needed; sound playback is immediate. Equipped with 15-watt amplifier. Has all-gear drive and straight-line optical system; reverse and still-picture projection; silent or sound speeds (16 or 24 f.p.s.); microphone and phone jacks for recording music and voices, separately or simultaneously; fool-proof threading; pilot light;



finger-tip controls; fast rewind; top-mounted reel arms. Switch from optical to magnetic sound track can be made while projector is running. 50-60 cycle AC only. Projector, built-in 5x7″ front-mounted speaker and accessories housed in single carrying case. Includes all superior features of Filmosound 385 plus magnetic-recording operation. With 2″ f/1.6 Super Proval lens, Ceramic microphone, spare reel and 50′ roll of SOUNDSTRIPED practice film, **$855.** Same, but with 1¾″-2¼″ f/1.6 Filmovar "Zoom" lens, **$893**

BELL & HOWELL FILMOSOUND 384 & 385 16mm SOUND PROJECTORS have all-gear drives for flickerless pictures, one-piece film transport shuttles, forced-air cooling, sealed factory lubrication, fool-proof threading, 2,000′ reel capacity. Feature straight-line optical system, with no mirrors or prisms. All elements individually pre-aligned in each unit. Equipped with pre-aligned lamp and rhodium reflector. Project sound or silent films (24 or 16 f.p.s.)



Rewind Release automatically resets unit for forward operation after rewinding. 1-hour show rewinds in 2 minutes. 50/60-cycle AC operation. **Filmosound 385** has threading light, still-picture clutch, reverse controls, built-in 5″ x 7″ speaker, 15-watt high fidelity amplifier, permanently attached line cord, rotary motor-lamp selector dial, 1,000-watt lamp, coated 2″ f/1.6 Super Proval lens. Unit is own carrying case. **$525.** Same, but with 1¾″—2¼″ f/1.6 Filmovara "Zoom" lens, **$563. Filmosound 384** is similar to 385, with threading light, still-picture clutch and reverse controls eliminated, 10-watt amplifier with reserve power for low voltage areas. Comes with 750-watt lamp but will accept 1,000-watt lamp. With coated 2″ f/1.6 Super Proval lens, **$475**

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sonotrack coating

KODAK SONOTRACK COATING—Magnetic sound track for processed 16mm film. Double perforated film will be edge coated. Sound film can be coated with ½ or full-width track. In quantities of less than 400 feet, per foot, 6¢. In quantities of more than 400 feet, per foot, 4¢; Minimum order, **$3**

RUNNING TIME OF MOTION PICTURE FILM

16mm Silent Film—16 frames per second—24 feet per minute

Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.
1	—	2½	12	—	30	55	2	17½	120	5	—
2	—	5	13	—	32½	60	2	30	130	5	25
3	—	7½	14	—	35	65	2	42½	140	5	50
4	—	10	15	—	37½	70	2	55	150	6	15
5	—	12½	20	—	50	75	3	7½	160	6	40
6	—	15	25	1	2½	80	3	20	170	7	5
7	—	17½	30	1	15	85	3	32½	180	7	30
8	—	20	35	1	27½	90	3	45	190	7	55
9	—	22½	40	1	40	95	3	57½	200	8	20
10	—	25	45	1	57½	100	4	10	300	12	30
11	—	27½	50	2	5	110	4	35	400	16	40

Courtesy of Photo-Lab-Index

LENS DIAPHRAGM COMPENSATOR

When f/stop is known for any given camera speed in frames per second, the corrected f/stop for any other speed may be found in the same horizontal line.

SPEED IN FRAMES PER SECOND

8	12	16	24	32	48	64	72	96	128
2	1.7	1.4							
2.8	2.4	2	1.7	1.4					
4	3.4	2.8	2.4	2	1.7	1.4			
5.6	4.8	4	3.4	2.8	2.4	2	1.9	1.7	1.4
8	6.8	5.6	4.8	4	3.4	2.8	2.6	2.4	2
11	9.6	8	6.8	5.6	4.8	4	3.7	3.4	2.8
16	14	11	9.6	8	6.8	5.6	5.3	4.8	4
22	19	16	14	11	9.6	8	7.3	6.8	5.6
32	28	22	19	16	14	11	10,6	9.6	8

Courtesy of Photo-Lab-Index

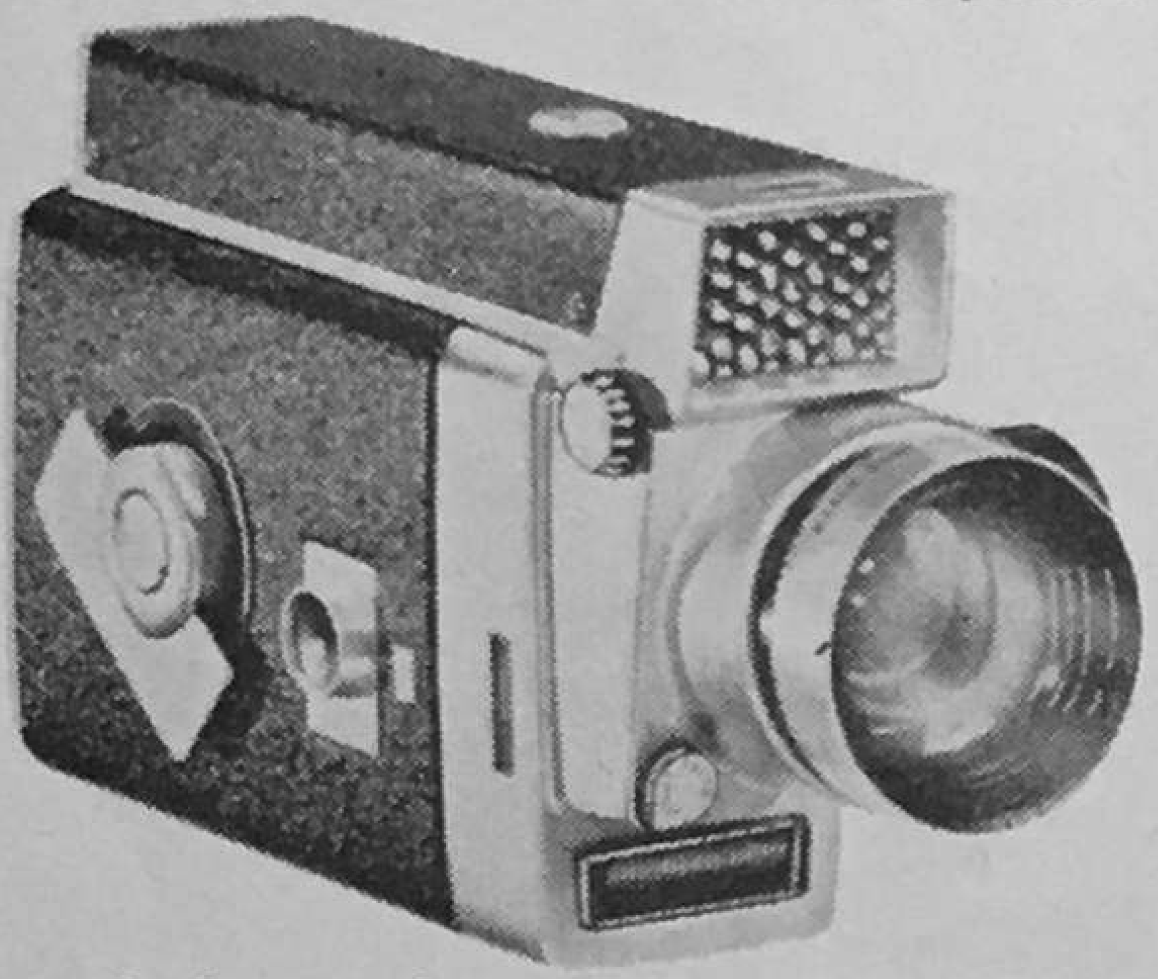
8mm MOVIES

8mm equipment is being used more and more in industry because the photographer has found that with a simple filming technique and some care, he will get excellent results quickly and economically. The latest refinements in these cameras, projectors and accessories, formerly found only in more costly equipment, make 8mm feasible for low-budget productions. Projectors are compact and easy to set up for product demonstrations, training meetings, progress reports, etc. Look into 8mm, silent or sound and look to us for assistance.

cameras

KODAK ZOOM 8 CAMERA (Automatic f/1.9)—Has variable focal length for wide-angle or telephoto use. Built-in exposuse meter. Film index dial on camera front in half-stops from 5 to 40 adjusts light meter for films with different exposure indexes. In gray Kodadur, **$139.50**

KODAK ZOOM 8 REFLEX. (automatic f/1.9) New movie camera offers versatile, fingertip control over image & exposure because of 3 features: push-button zooming, reflex viewing, & automatic exposure. Both zoom & exposure controls can be set for manual operation. For normal shots a red pointer indicates proper focusing position; for "close-ups" or "scenes" there are add'l. settings. Power zoom action from 9 to 25mm—controlled by a single button, powered by spring motor. Reflex finder permits user to see exactly what camera is filming. 15 ft. run on one winding; easy drop-in loading; insufficient light signals, **$199.50**

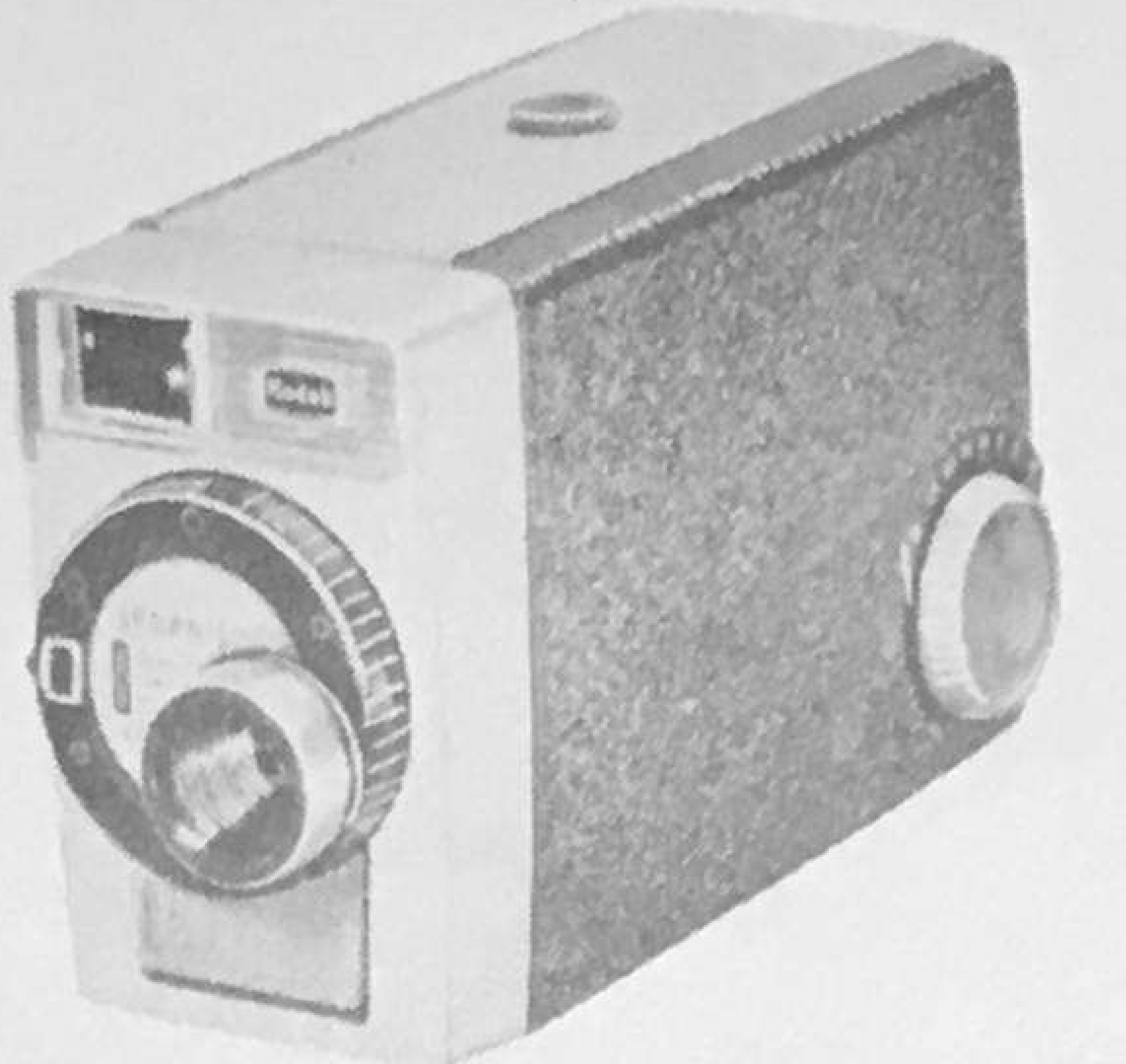


KODAK AUTOMATIC 8 MOVIE CAMERA with fast f/1.6 lens at new low price. Fully automatic; handsomely styled in two-tone aqua; easy-loading; built-in Type A filter. Low-light-level indicator visible in bright viewfinder employs a pointer which tells you when there isn't enough light. Parallax correction is provided in finder, easy-touch exposure lever. Footage indicator automatically resets. Light-bar receptacle on top of camera enables use of Brownie 8 Movie Light for "over-the-camera" illumination, **$49.95**

KODAK CINE LENS CONVERTERS AND SPACE RINGS—Give telephoto or wide-angle results with many types of cameras. KODAK TELEPHOTO CONVERTER (for all Brownie Movie Cameras, Cine-Kodak Medallion 8 Camera with fixed-focus interchangeable f/1.9 lens, and Kodak Medallion 8 Movie Camera, f/1.9) **$14.75. KODAK WIDE-ANGLE CONVERTER, 6.5mm** (for Brownie Movie Camera, Scopesight f/1.9, Exposure Meter Model) **$14.75. KODAK WIDE-ANGLE CONVERTER, 9mm** (for Brownie Movie Cameras, except Scopesight models, Cine-Kodak Medallion 8 Camera with fixed-focus interchangeable f/1.9 lens, and Kodak Medallion 8 Movie Camera f/1.9) **$14.75**

BROWNIE MOVIE CAMERA (Model 2) for easy, sure, economical movies. **LENS:** 13mm f/1.9 preset—no focusing required. **SPEED:** 16 fps. Accepts 8mm rollfilm. Footage indicator; exposure dial; optical-type finder with parallax correction; "click-stop" lens opening adjustment. **$32.50**

BROWNIE 8 MOVIE CAMERA, f/2.7 . . . lowest-priced movie camera in Kodak's history. Easily loads 8mm 25-ft. roll, operates at 16 f.p.s. **LENS:** 13mm f/2.7, fixed focus. King size shutter release for sturdy camera grip. Simple exposure dial; optical viewfinder corrected for parallax. Very compact; weighs only 1¼ lbs. **$26.95.** Case, $5.95: **BROWNIE 8 MOVIE LIGHT,** Model 1, designed for above camera; attaches by simple thumb screw. Accepts two 300 or 375-watt reflector floods. Less lamps, **$5.95. BROWNIE 8 MOVIE CAMERA KIT,** with camera, light, 2 lamps, **$34.75**



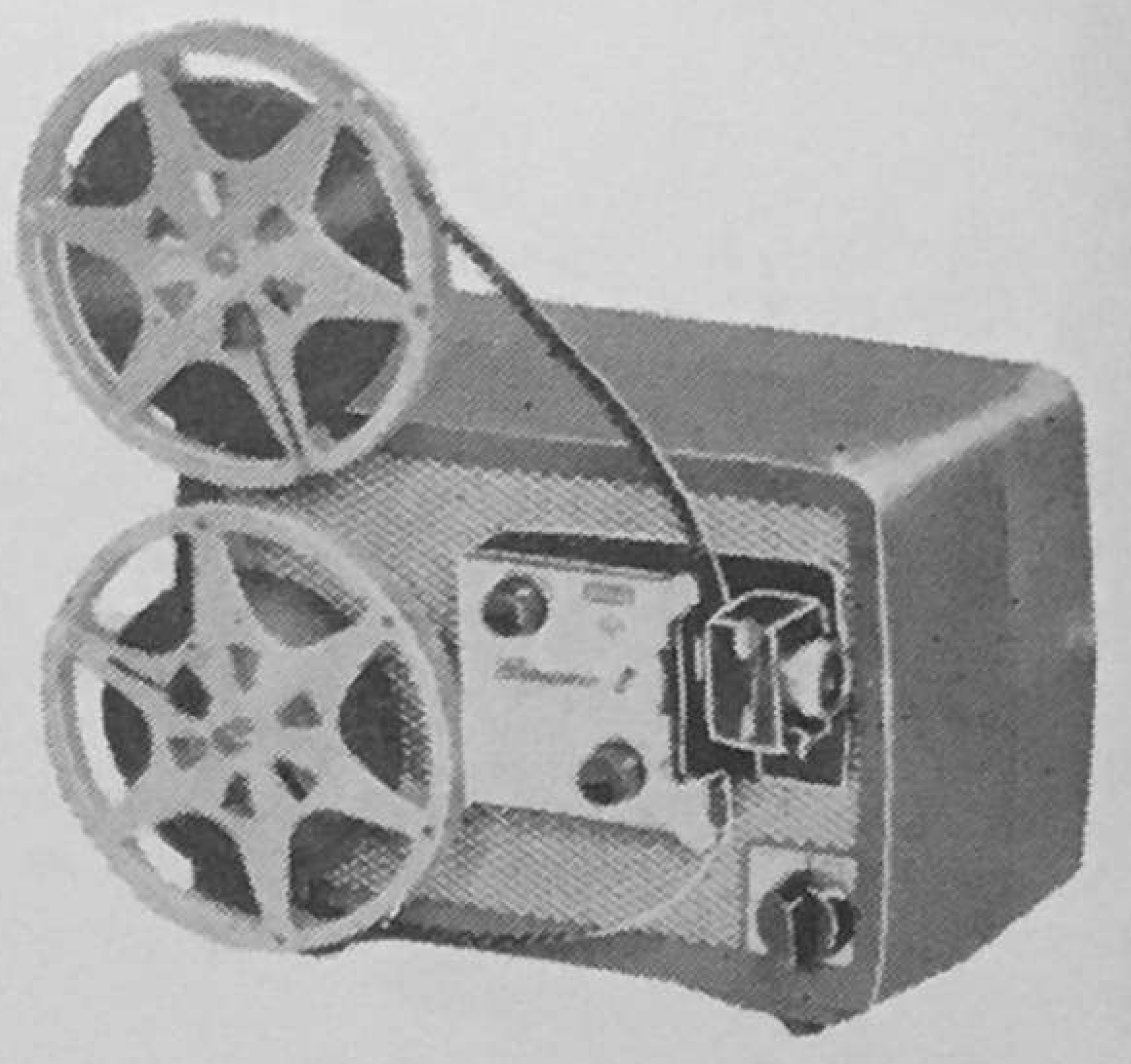
BROWNIE MOVIE CAMERA TURRET f/1.9 (3-lens) has added feature of regular, W.A. and tele lenses in smooth action turret. **LENSES:** 9mm, 13mm and 24mm f/2.3. Only one setting for use of all lenses; areas covered by each lens are viewed at one time. **$59.50.** Field case, open finder model, **$6.50;** compartment case, **$8.50.** Kodak telephoto or wide angle converter for single lens models, **$14.75**

BELL & HOWELL SUN DIAL 8mm MOVIE CAMERA. Just dial the right "sun," sight, and shoot. Accepts economical roll film. Quick, easy drop-in loading. Big picture-window viewfinder shows fields of view for normal 10mm lens, plus 2½x telephoto and 6.5mm wide angle lens attachments. SPEED: 16 frames per second. 10-ft. film run for each fast, crank wind. Single frame and continuous-run lock on one 3-way starting button. **WILSHIRE 220:** With coated 10mm f/2.5 Comat lens, **$39.95**

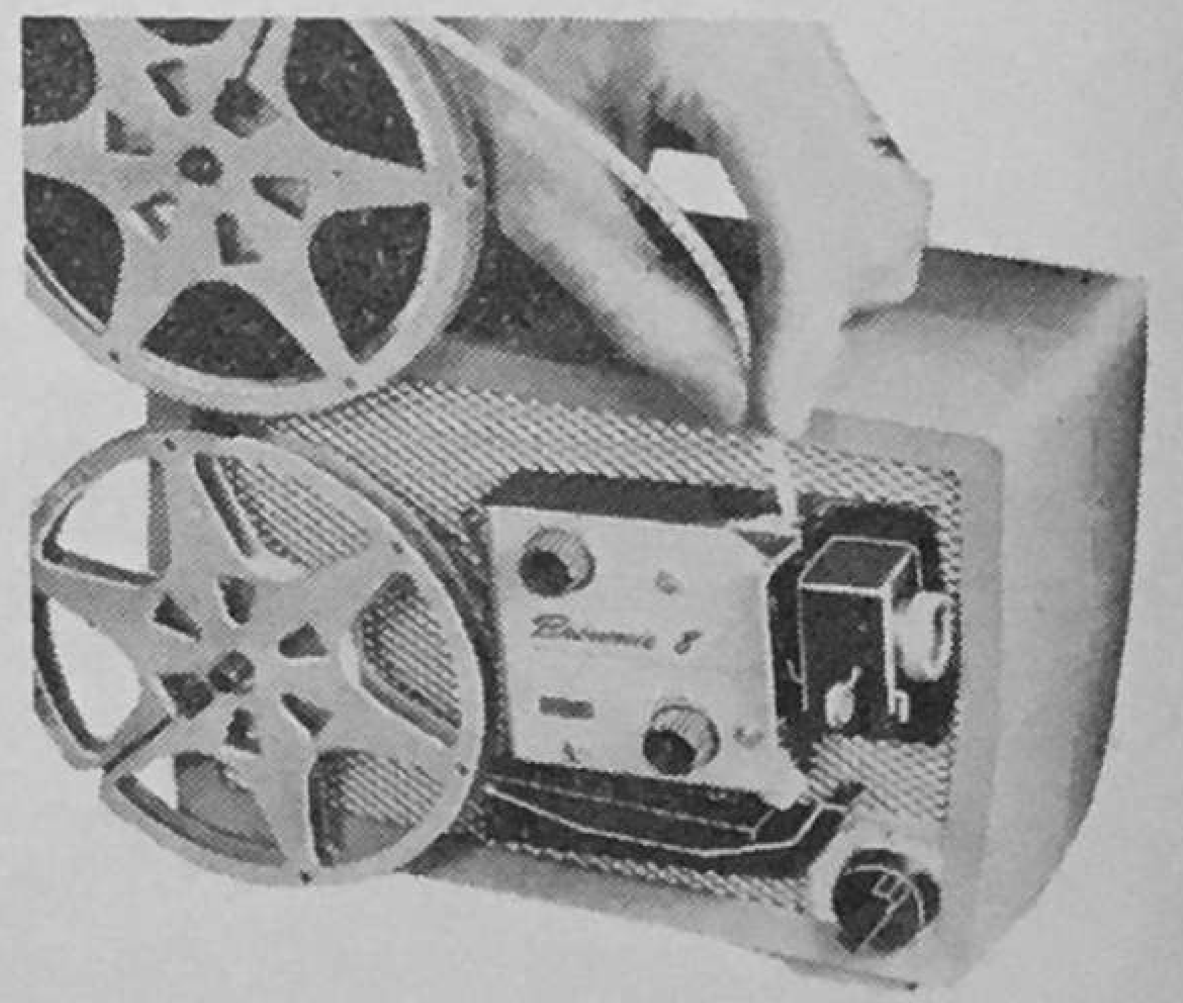
BELL & HOWELL 390 ELECTRIC EYE 8mm MOVIE CAMERA. No batteries, no motor—powered by light energy itself. The electric eye continuously analyzes the light for you and automatically sets the lens for perfect exposure, indoors or out. Shoot action the second you see it, the 390's always ready, always properly adjusted, you can even pan from deep shade to bright sun light and maintain even exposure throughout the scene. Viewfinder beacon lets you know when there's not enough light for good movies or special effects. Accepts economical roll film, with easy drop-in loading. Long 10-ft. film run each fast crank wind. Operates at 16 f.p.s. Single-frame release and continuous-run lock on one 3-way starting button. Big picture-window viewfinder also shows fields of view for telephoto and wide angle attachment lens. **LENS:** Fast, coated 10mm f/2.3 Super Comat—gives 56% more picture coverage than normal ½" lenses. Compact, rugged, lightweight diecast aluminum construction, **$99.95. ACCESSORIES:** 2½ telephoto attachment lens, **$22.95;** 6.5mm wide angle attachment lens, **$22.95;** Leather combination carrying case, **$13.95**

silent projectors

BROWNIE 8 MOVIE PROJECTOR (Model 10) is new low-cost portable. Makes home movies as easy—and economical to show as they are to take. Departs from conventional design; offers ease of sprocketless load . . . perforations in film are not engaged by projector, eliminating danger of torn sprockets. Small "snubbers" guide film into position, form loop and hold film in place. Very compact: 8⅞x4¾x6-7/16"; weighs 5 pounds. 3-foot wide image at only 12-foot screen distance is possible by ¾" Ektanar f/1.6 lens. Unique elevation adjustment; 200-ft reel capacity for 15-minute shows. Extra-bright image by new G.E. lamp with built-in reflector. Single knob controls, power rewind, **$44.50**



BROWNIE 8 MOVIE PROJECTOR, Model A15 features automatic, sprocketless threading at low cost. Simply feed film into projection gate and it is automatically led onto take-up reel. **LAMP:** 150-watt DFC truflector lamp yields greater light output. Single rotary switch controls forward projection and rapid rewind. Easy lever focusing; knob raises or lowers image on screen, without moving projector. **LENS:** ¾" f/1.6 Kodak Ektanar. Weighs only 5½ lbs. With 8-ft. power cord, **$54.50.** Case with preview screen, **$6.95**



BROWNIE 310 MOVIE-PROJECTOR, MODEL A-4 is a new 8mm projector with fully automatic sprocketless threading plus reverse and still projection. Separate rotary switch for motor & lamp; 200 ft. reel capacity for 15-minute showings; built-in-case construction. Never needs oiling, will project a 4 ft. wide

FIELD AREA CHART (For 8mm Camera Lenses)

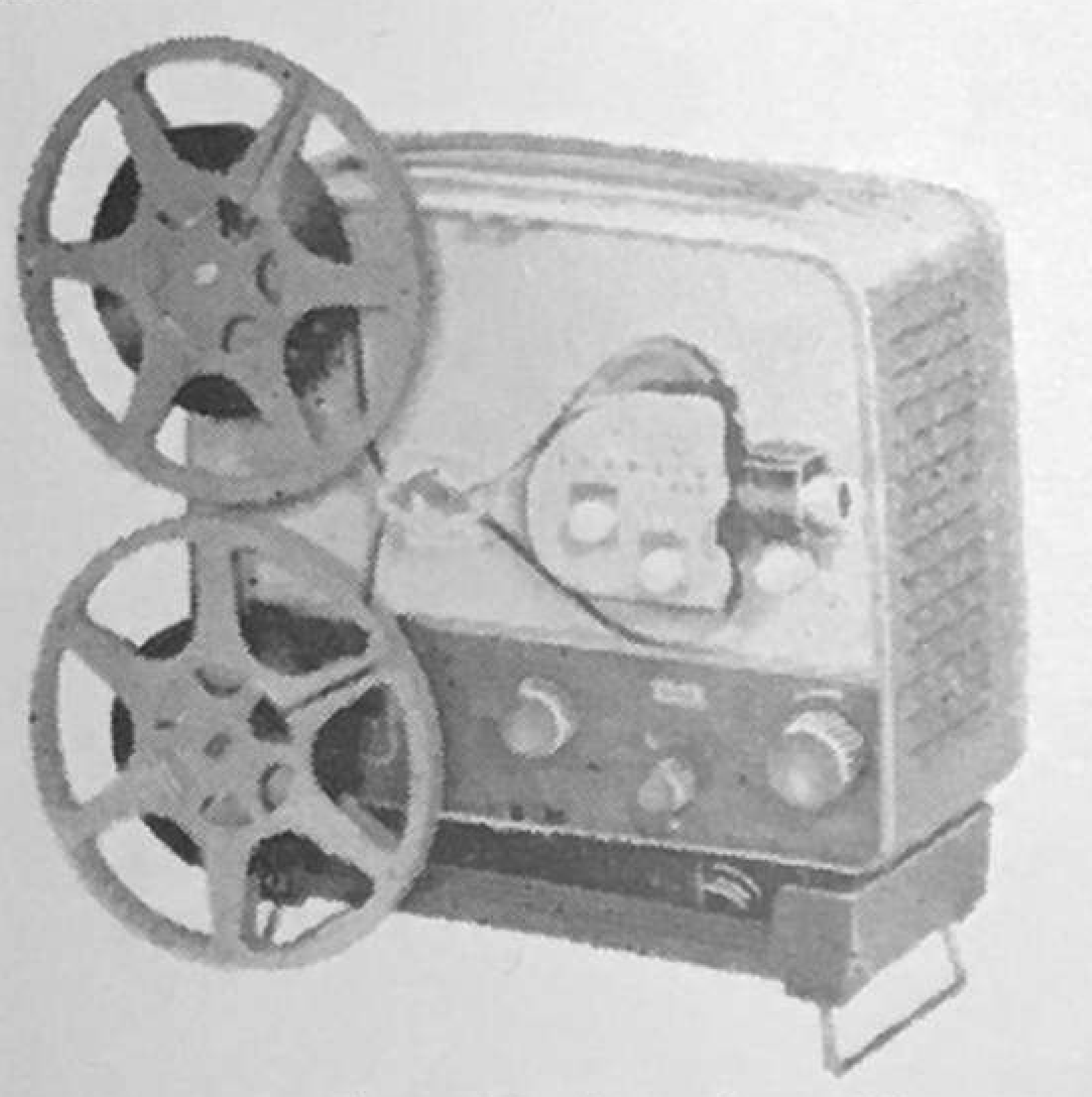
This table shows the subject area which will be photographed by 8mm cameras with the lenses mentioned, used at the distances mentioned in the first column. The areas given are based on that part of the image which will actually appear on the screen when projected through the standard 8mm projector aperture, .129" high by .172" wide.

Distance from subject to front of camera	8mm f/2.7 Lens				½" f/1.9 Lens				½" f/2.7 Lens				½" f/3.5 Lens				1½" f/4.5 Lens			
	Width		Height		Width		Height		Width		Height		Width		Height		Width		Height	
	ft.	in. to	ft.	in.	ft.	in. to	ft.	in.	ft.	in. to	ft.	in.	ft.	in. to	ft.	in.	ft.	in. to	ft.	in.
50 ft.	—	—	—	—	17	2	12	11	16	5	12	4	17	3	13	—	5	9	4	4
25 ft.	11	7	8	9	8	7	6	5	8	3	6	2	8	7	6	6	2	10	2	2
15 ft.	—	—	—	—	5	2	3	10	4	11	3	9	5	2	3	11	1	8⅝	1	3½
12 ft.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	4⅜	1	¼
10 ft.	4	6	3	4	3	5	2	7	3	3	2	6	3	5	2	7	1	1¾	—	10¼
8 ft.	—	—	—	—	2	8¾	2	½	2	7¾	1	11⅞	2	9	2	¾	—	10⅞	—	8⅛
6 ft.	2	9	2	1	2	½	1	6⅜	1	11¾	1	5¾	2	¾	1	6⅝	—	8⅛	—	6⅛
4 ft.	1	10	1	4½	1	4¼	1	¼	1	3¾	—	17⅞	1	4⅜	1	⅜	—	—	—	—
3 ft.	1	4½	—	12½	1	¼	—	9⅛	—	11¾	—	8⅞	1	¼	—	9¼	—	—	—	—
2 ft.	—	11	—	8¼	—	8	—	6	—	7⅞	—	6	—	8⅛	—	6⅞	—	—	—	—

Courtesy of Photo-Lab-Index

picture at distance of only 16 ft. **LENS:** ¾-inch fast f/1.6. **LAMP:** 150-watt DFC with light capacity to fill a 4-foot screen. Single control knob for reverse-power rewind, forward & still projection. No shifting of belts or reels is necessary, **$74.50**

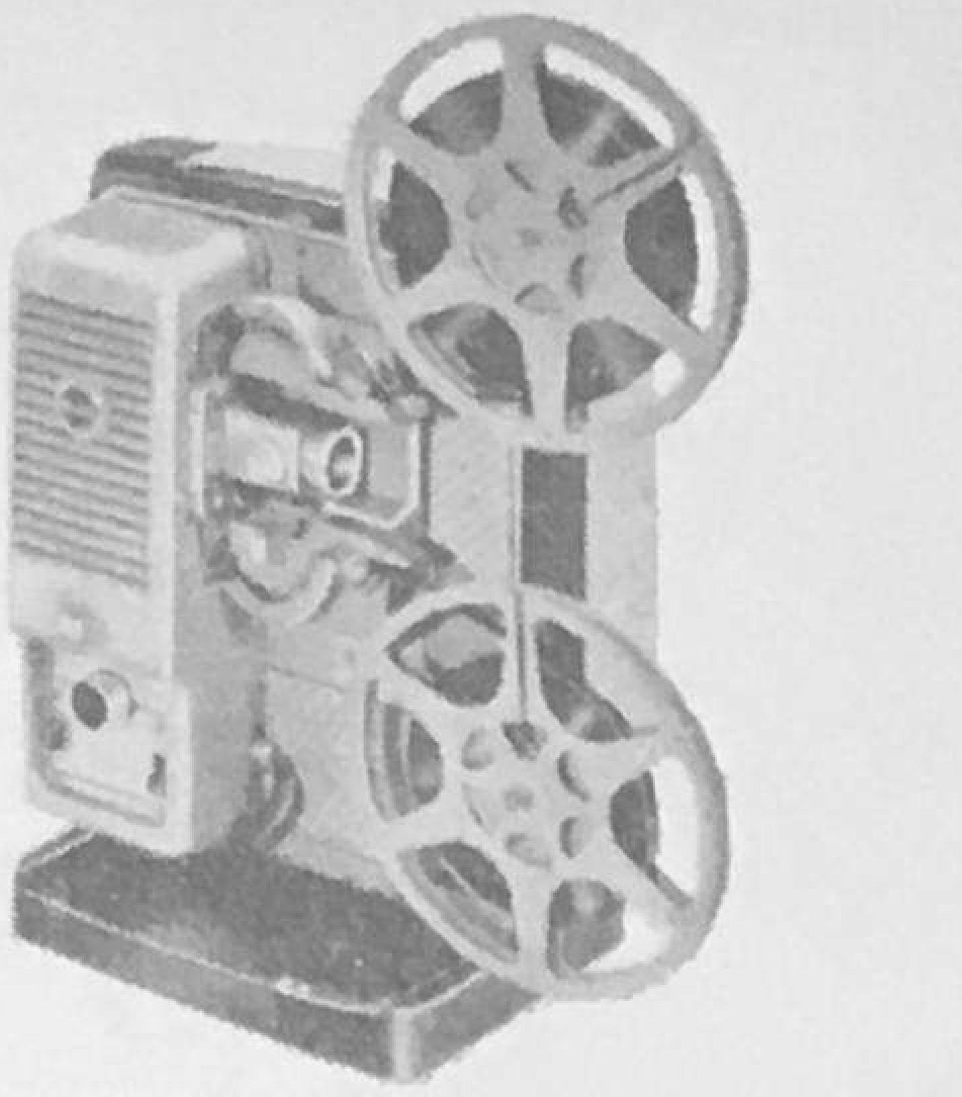
BROWNIE 500 MOVIE PROJECTOR, MODEL C is a new version of the old favorite. Features new styling advances and more light output. New color scheme makes this projector even more attractive; new two-element front plate contains control information. Greater simplicity is provided by rotary 3-position switch which replaces individual controls. Durable new base with folding metal feet which elevates projector. 400-ft capacity. Equipped with new G.E. 500-watt, gold-top CZB lamp with its own built-in reflector; yields 50% increase in light output. **$84.50** **BROWNIE 300 PROJECTOR, MODEL 4,** with lamp, **$69.50**



BROWNIE 500 MOVIE PROJECTOR, MODEL A-5 features completely automatic threading. Single control for forward projection, "stills", reverse action, and power rewinding without shifting belts or reels. **LENS:** Super-fast f/1.6. **LAMP:** brilliant 500-watt CZB with proximity reflector. 400-foot reel capacity for 30-minute showings. Self-threading mechanism picks up end of film as it is fed into thread slot, and directs it thru gate onto take-up reel automatically. Includes film cutter, cord storage compartment, front & rear projector legs, elevation knob, power cord & take-up reel, **$94.50**

BELL & HOWELL 8MM SUPER AUTO LOAD PROJECTOR threads itself automatically in three seconds. Die-cast aluminum construction, variable speed control, reverse and still-picture controls, in-line optical system. Permanently factory lubricated. With 1″ f/1.6 lens, **$139.95.** Same with 17-27mm Filmovara zoom lens, **$159.95**

KODAK-CINE SHOWTIME PROJECTOR MODEL A20. Self-threading; automatic control leads film onto take-up reel without being touched by operator. Powerful 500-W lamp with non-axial glass reflector gives extra brightness. ¾″ f/1.6 lens provides 5 ft.-wide "big screen" picture. 400′ reel capacity; all controls for forward, "stills" reverse and rewind on single control. Nylon gears and bearings never require lubrication. With built-in case, **$124.50.** With new Zoom Lens (15 to 25mm), permits picture size adjustment to fit screen without moving projector or screen, **$139.50. MODEL A30** with variable-speed control with Kodak Presstape Splicer, **$149.50. Model A30** with Zoom lens, **$164.50**

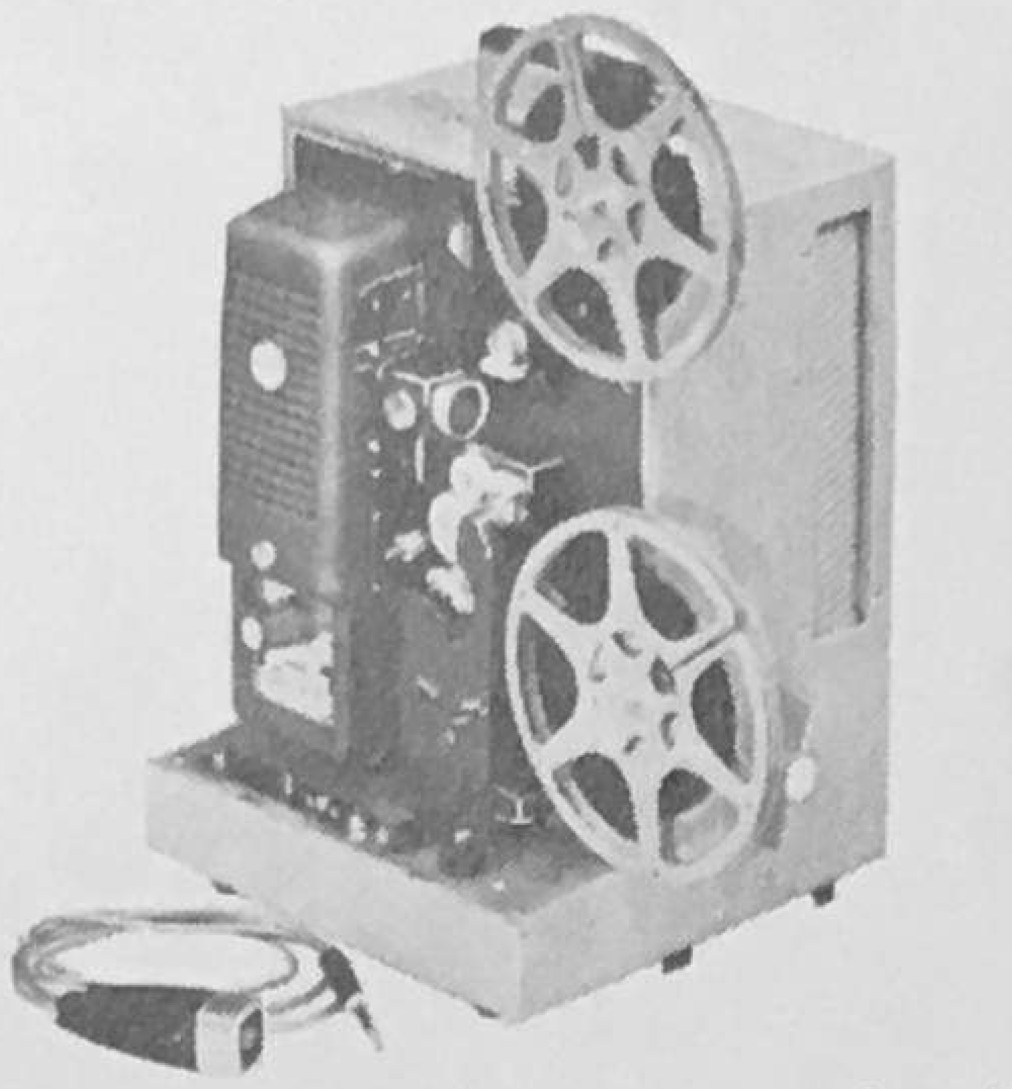


BELL & HOWELL 8MM PROJECTORS are available in 8 models. Super Monterey 253AX has 400′ reel capacity, 1″ f/1.6 anastigmat lens, of Die-cast aluminum with built-in case, **$69.95.** Monterey Deluxe 253RV has Variable Speed Control, still-picture lever, f/1.6 lens, **$109.95.** Same model, with Filmovara "Zoom" lens, **$129.95.** Regent Deluxe 122LR is equipped with prealigned optical system, all-gear drive, swing-out lens mount, rotary control dial, room-lamp cut-off switch. With f/1.6 lens, snap-on case, **$189.95.** With "Zoom" lens, **$209.95.** Other models: Auto Load Lumina 1.2 with 23mm f/1.2 lens, brilliant new T-14 lamp. Variable speed, automatic cord rewind, built-in splicer, **$159.95;** Super Auto Load with 1″ f/1.6 lens, variable spec control, **$144.95** with Filmovara "Zoom", **$164.95**

BELL & HOWELL REGENT DELUXE 122LRY 8mm PROJECTOR with exclusive 15-20mm Filmovara "Zoom" lens. No need to move projector or screen, just turn the Filmovara and choose the size picture you want. All-gear drive. Reverse and still-picture control. Fast automatic rewind. Room-lamp cut off switch—room lights go off when projector is turned on. 400-ft. film capacity. B&H straight-line optical system, 500-watt lamp and powerful blower cooling. Rotary control dial and micro-tilt adjustment. Simple, out-in-the-open threading. All die-cast aluminum, with rugged snap-on carrying case. 110-125V, AC operation. **MODEL 122LRY, $209.95. REGENT DELUXE 122LR:** Same but with 1″ f/1.6 anastigmat lens instead of Filmovara, **$189.95.** The Filmovara "Zoom" lens is available as an accessory for all Regent models, **$39.95**

sound projector

KODAK SOUND 8 PROJECTOR adds a new dimension to home movies. Incorporates a complete system of recording and reproducing sound on 8mm film. Unique sound-drive system assures top quality results. Extremely short starting and stopping transient provides smoother operation. Sound can be added to old or new film by means of a magnetic oxide stripe applied to film edge. Commentary is then recorded by speaking into microphone supplied with unit. Music or other sound effects can be added with tape recorder or record player; phono connector cord supplied. Magnetic Head, only 20 mils wide, eliminates "edge tracking", resulting in better sound quality. Features pole piece made of "Alfenol", a new metal which permits the head to be physically hard (for long wear) . . . but magnetically "soft" so that it conducts but does not retain flux. Additional features include frequency responses of 70 to 7500 cycles; 2x10″ oval speaker mounted in projector case; provision for external speaker. Forward, reverse, still projection; control knob provides 2 forward speeds: 16 and 24 f.p.s. Reverse speed: 24 f.p.s. Printed circuit amplifier with 2½-watt output. High impedance microphone input and phono output. Shaded pole induction type motor provides quiet operation. Unit basically operates from two main controls: play/record switch and volume control knob. **LAMP:** 500-watt illumination with new non-axial lamp for screenings 5-ft. wide; 250-watt illumination for use when extra brilliance is not necessary. 400-ft. film capacity. **LENS:** ¾″ Projection Ektanar f/1.6. Unit weighs 30-lbs., including microphone and take-up reel, **$345**



RUNNING TIME OF MOTION PICTURE FILM

8mm Film—Silent speed only; 16 frames per second—12 feet per minute

Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.	Feet	Min.	Sec.
1	—	5	12	1	0	55	4	35	120	10	—
2	—	10	13	1	5	60	5	—	130	10	50
3	—	15	14	1	10	65	5	25	140	11	40
4	—	20	15	1	15	70	5	50	150	12	30
5	—	25	20	1	40	75	6	15	160	13	20
6	—	30	25	2	5	80	6	40	170	14	10
7	—	35	30	2	30	85	7	5	180	15	—
8	—	40	35	2	55	90	7	30	190	15	50
9	—	45	40	3	20	95	7	55	200	16	40
10	—	50	45	3	45	100	8	20	300	25	—
11	—	55	50	4	10	110	9	10	400	33	20

Courtesy of Photo-Lab-Index

8mm sonotrack coating

KODAK 8MM SONOTRACK COATING is applied to processed film between perforations and film edge. Stripe provides sound track on which voices, musical background, and sound effects can be recorded as film is projected with Kodak Sound 8 Projector. All films will be cleaned without charge before the sound striping is added. 8mm Sonotrack Coating alone, rolls less than 400′, per ft., **6¢;** rolls, 400′ or longer, per ft., **4¢.** Min. charge per roll, **$3.** Combination Kodachrome Processing plus Sonotrack Coating Service, 8mm: 25′ roll, **$3.75;** 25′ hag., **$3.40.** 16mm: 50′ mag., **$3.70;** 100′ roll, **$8.25.** Magazine prices are after refund of magazine deposit.

MOTION PICTURE ACCESSORIES

animation equipment

TEL ANIMASTAND ANIMATION STAND low-price unit for stop-motion work, optical effects such as pans, zooms, or quick close-ups. Incorporate all movements as higher-priced animation stands. Art table accommodates artwork up to 18x24″. Title stand only **$1,495.** Complete stand, **$2,995.** Tel-Animastand with automatic zoom, **$3,750;** with zoom and follow focus, **$4,750.** Full line of accessories available.

TEL-ANIMAPRINT HOT PRESS TITLE MACHINE uses heated foundry printers' type impressed upon colored foils to produce titles, crawls, flip-cards, and advertising copy on board or acetate cels. Self-heating type-holder, acetate stamping rheostat, calibrated line finder, Acme Animation Peg Bar Table, samples of color foil, acetate cels, cushion board, animation field chart punched for Acme pegs. **$450.** Electronic model, **$575.** Accessories: cabinet, less drawers or inserts, **$99.50.** Hot type cooling tray, **$1.98.** Roll Leaf storage box, **$4.95.** 10″ composing stick, **$9.95.** Type ruler, **$1.95.** Tel-Anima "Starter Budget" Printers' Type Package, **$84.70**

film cement

KODAK FILM CEMENT—For speedy, smooth, permanent splicing. ½-oz. bottle, **65¢;** 2-oz. bottle, **95¢;** 16-oz. can, **$1.75;** 1-gal. can, **$6.75**

CRAIG FORMULA #7 FILM CEMENT welds film together in a positive splice. Handy brush applicator with each 1 oz. bottle, **40¢;** 16 oz. bottle, **$3.50**

film cleaning & preserving

FILMAGIC PYLON automatic silicone lubricator fluid and flanges are used for cleaning and lubricating film, film projector mechanisms and tape recorder mechanisms, while equipment is in use. Pylon, **$1.50.** Tape conditioner, 2 oz., Bottle, **98¢.** Cleaner, 2 oz. bottle, **98¢.** Complete Tape Maintenance Kit containing pylons and cleaning-lubricating fluids **$3.45**

FILMAGIC CLOTH contains pure dimethyl silicones, cleans, polishes and protects records, lenses, chrome and metals, as well as films. 12x18″ cloth, **$2**

ECCO SPEEDROL APPLICATOR MODEL D permits cleaning and inspection of roll, strip or movie film in one easy operation. Consists of bakelite cleaning unit with positive pressure spring, wool-felt cleaning wicks, teflon idler rollers; also 8-oz capacity unbreakable polyethylene fluid unit guaranteed against leakage. Valve controls flow of fluid which is always visible. **$33**

"NEUVATOR" FILM CLEANING MACHINE MODEL CL-16 cleans, conditions, polishes, rewinds 16mm film in a single operation. Accommodates reels of 400′ through 1600′. Removes dirt, grime, oil, fingerprints, tone distorting foreign substances on sound film as well as blurring picture, etc. Impossible for machine to damage sprocket holes; machine stops automatically at end of reel or if a splice parts. Film runs through baths, squeegees, polishing rollers, etc. and is rewound perfectly dry at rate of 1600′ in 12 minutes. Heavy gauge steel housing fitted with double doors, 3 point latching device, motor concealed in base. White interior, black morocco exterior, chrome idlers, **$450.** "Neuvator Stand" for machine with utility drawer and shelf, steel construction, **$45**

NO-EN FILM TREATMENT, for films used in a continuous projector or repeater mechanism. Eliminates friction and gives trouble-free projection of continuous loop films. **$4 to $12**

film storage racks & cabinets

NEUMADE STORAGE UNITS for permanent 16mm film protection are made of dust-proof, fireproof steel. Each is humidified, provided with key locks, and is indexed to afford instant selection of film for libraries, schools, churches, laboratories, etc. All models have a standard finish of olive-gray enamel, baked on. Metal parts including handles, hanger, etc. are polished chrome. More than 50 models to choose from. MODEL MM-119 is designed for the varied film library. Door has three-way latching devices plus lock. 70″ high x 30″ wide x 16″ deep. Utility drawer in base. Capacity: 40 400′ reels, 20 800′ reels, 20 1200′ reels, 20 1600′ reels. 100 film-strip cans. **$245.** MODEL MM-119-4, same as above but with 8 film separator racks to file 160 400′ reels. **$265.** MODEL MM-119-8, same as above with 4 racks to accommodate 80 800′ reels. **$245.** MODEL MM-119-16, same as above but with 3 racks to accommodate 60 800′, 1200′ or 1600′ reels, plus utility shelf at the top. **$240.** NEUMADE INNOVATION MODELS are film storage cabinets which can be built up sectionally as needed. Each section is complete in itself with humidor tray and index card. MM-16 UNIT holds 17 reels of 800′ 1200′ or 1600′ size, with or without cans. Made of heavy steel with double doors fitted with 3 point latching device. Interchangeable index card and holder for each reel, 29x21½x17″. **$69.** Base for MM-16 unit (BA-16) is heavy steel, 10″ high. **$18.** MM-20 UNIT holds 20 400′ reels with or without cans. Heavy gauge steel construction. Drop door provides work shelf when lowered. Index card holder for each reel. Humidifier tray. 29x14x10″. **$47.50.** Base for MM-20 unit is made of heavy steel, 10″ high. (BA-4) **$15.** NEUMADE MODEL MM-180-16 CABINET, for storing large numbers of 100′ reels of 16mm film. Each of 700 spools has its own division with index card to be keyed with master index. Key lock on double door as well as 3-point latching device; humidifier tray on bottom of cabinet. Overall size 72″ high x 48″ wide x 11″ deep. **$415**

film shipping cases

FIBERBILT FILM SHIPPING CASES for 16mm, 400′, 600′, 800′ 1200′, 1600′ and 2000′ reels are equipped with heavy web straps and patented steel address card holders. Made of vulcanized and non-vulcanized fibre. Prices on request.

GOLDBERG NON-VULCANIZED FIBRE CASES, corners reinforced with extra heavy metal. Heavy duty web straps and large address holder. In 400, 600, 800, 1200, 1600, and 2000-ft., one, two, three, or four-reel sizes; from **$2.10** to **$8.05.** SALON CASES, 16x20, depths from 1¼-in. to 4-in. **$7.05** to **$11.85**

We carry a
complete line of
industrial sound
subjects

motor drives

CAMERA EQUIPMENT VARIABLE SPEED MOTOR with Tachometer for Eastman Kodak Cine Special camera is electrically (governor) controlled motor, supplied for either 12-volt or 110-volt operations. Speeds from 16-64 fps accurately shown on specially designed Tachometer. **$350**

PROJECTION LAMPS FOR SLIDES AND MOVIES

A.S.A. Code	Type	Watts	Base	Filament	Approx. Life in Hours	Bulb	Max. Overall Length	Approx. Lumens	Price Each
BEC	150B12	150	Double Contact Bayonet	2CC-8	25	B-12	2⅝	3500	**$2.40**
BEH	150T10F	150	Tru Focus	2CC-8	25	T-10	3⅛	3500	**2.65**
BEJ	200B12	200	Double Contact Bayonet	2CC-8	25	B-12	2⅝	4700	**2.50**
BMA	BMA	150	D. C. Reflector	CC-8	10	S-11	2 9/16		**2.85**
CAL	300T10TF4	300	Tru Focus, 4-Pin	C-13	25	T-10	4	7200	**4.00**
CAR	150T10TF1	150	Tru Focus	2CC-8	15	T-10	3	3500	**2.90**
CAS	50T8/47SC	50	Single Contact Bayonet	CC-13	50	T-8	3⅛	775	**1.90**
CBJ	75T8/73	75	Single Contact Bayonet	CC-13	50	T-8	3⅛	1300	**2.10**
CBX	75T8/107	75	Double Contact Bayonet	CC-13	50	T-8	3⅛	1300	**2.20**
CCM	200T8/SC	200	Double Contact Bayonet	2CC-8	25	T-8	3⅝	4700	**2.50**
CDD	100T8/108SC	100	Single Contact Bayonet	CC-2V	50	T-8	3⅛	2000	**1.60**
CDJ	100T8/108DC	100	Double Contact Bayonet	CC-2V	50	T-8	3⅛	2000	**1.70**
CDX	100T8SC	100	Single Contact Bayonet	CC-13	50	T-8	3⅛	1950	**2.20**
CEL	110T8/108DC	100	Double Contact Bayonet	CC-2V	100	T-8	3⅛	1950	**2.00**
CEM	110T8/108SC	100	Single Contact Bayonet	CC-2V	100	T-8	3⅛	1950	**1.90**
CET	200T8/49	200	Double Contact Prefocus	2CC-8	25	T-8	3⅝	4700	**2.60**
CEW	150T8/71	150	Single Contact Bayonet	2CC-8	25	T-8	3⅝	3500	**2.30**
CGP	150T8/79	150	Double Contact Bayonet	2CC-8	25	T-8	3⅝	2500	**2.40**
CGW	200T8/113	200	Single Contact Bayonet	2CC-8	25	T-8	3⅝	4700	**2.40**
CHK	150T8/500SC	150	Single Contact Bayonet	2CC-8	500	T-8	3⅝	2295	**2.40**
CLS	300T8½/11	300	Single Contact Bayonet	C-13	25	T-8½	4⅛	7750	**3.30**
CLX	300T8½/12	300	Double Contact Bayonet	C-13	25	T-8½	4⅛	7750	**3.40**
CMV	300T8½/25C	300	Single Contact Bayonet	C-13D	25	T-8½	4⅛	7200	**4.00**
CPR	18A/T10P	18 amps	Medium Prefocus	C-8	50	T-10	5¾	2250	**4.50**
CRA	300T10TF3	300	Tru Focus, 4-Pin	C-13	25	T-10	4	7750	**4.30**
CTB	250T10/56	250	Medium Prefocus	C-13	50	T-10	5¾	6100	**6.60**
CVS	200T10P	200	Medium Prefocus	C-13	50	T-10	5¾	4250	**4.75**
CWD	300T10TF/1	300	4-Pin, Tru Focus	C-13	25	T-10	4	7750	**3.75**
CXK	300T10P	300	Medium Prefocus	C-13	25	T-10	5¼	8750	**4.60**
CXP	300T10TF/2	300	4-Pin, Tru Focus	C-13D	25	T-10	4	7200	**4.00**
CXY	300T10/61	300	Medium Prefocus	C-13D	25	T-10	5¾		**4.95**
CYC	300T10/SC	300	Single Contact Bayonet	C-13	25	T-10	3⅛	7750	**3.40**
CYF	300T10/2SC	300	Single Contact Bayonet	C-13	300	T-10	4⅛	4600	**4.60**
CYG	300T10/3LR	300	B&H Large Ring	C-13D	25	T-10	5½	7200	**5.60**
CZA	500T10TF2	500	4-Pin	C-13D	25	T-10	4	14500	**4.95**
CZB	500T10TF2	500	4-Pin	C-13D	10	T-10	4	14500	**4.95**
CZJ	400T10/3SR	400	B&H Small Ring	C-13D	25	T-10	5½	10200	**6.00**
CZX	500T10/P	500	Medium Prefocus	C-13D	25	T-10	5¾	13200	**4.95**
DAB	500T10/95	500	Medium Prefocus	C-13D	10	T-10	5¼	14500	**4.95**
DAG	50010/3LR	500	Large Index Ring	C-13D	25	T-10	5½	13200	**5.50**
DAK	500T10TF	500	Trufocus, 4-Pin	C-13D	25	T-10	4⅝	13200	**4.70**
DAR	500T10/3SR	500	Small Index Ring (B&H)	C-13D	25	T-10	5½	13200	**5.50**
DBJ	DBJ	500	Locking 4-Pin, Focus-Lok	C-13D	25	T-12	1¾	13200	**5.50**
DBT	500T10P/HV	500	Medium Prefocus	3CC-8	25	T-10	5¾	11700	**9.00**
DCA	150T12TFR/LV	150	Tru Focus	CC-6	15	T-12	3 9/16		**5.25**
DCS	500T12/4LR	500	B&H Large Ring	C-13D	25	T-12	5⅞	13250	**7.75**
DDB	750T12P	750	Medium Prefocus	C-13D	25	T-12	5¼	20100	**5.35**
DDW	750T12/24	750	Medium Prefocus	C-13D	10	T-12	5¼	22500	**5.35**
DDY	750T12/34	750	Medium Prefocus	C-13D	200	T-12	5¾	18000	**8.30**
DEC	750T12/5	750	Double Contact Medium Ring	C-13D	25	T-12	5⅞	20150	**5.95**
DEJ	750T12/3LR	750	Large Index Ring (B&H)	C-13D	25	T-12	5¾	20100	**5.95**
DEP	750T12TF	750	Tru Focus	C-13D	25	T-12	4⅝	20100	**5.35**
DES	750T12/4LR	750	B&H Large Ring	C-13D	25	T-12	5⅞	20150	**7.25**
DFA	150T12TFR	150	Tru Focus	CC-6	15	T-12	3 9/16		**5.25**
DFB	1MT12TF	1000	Tru Focus	C-13D	10	T-12	4⅝	31000	**5.75**
DFD	1MT12P	1000	Medium Prefocus	C-13D	10	T-12	5¾	31000	**5.75**
DFH	DFH	500	Locking, 4-Pin	C-13D	25	T-12	3⅞		**5.35**
DFK	1MT12/3LR	1000	Large Index Ring (B&H)	C-13D	10	T-12	5½	31000	**6.55**
DFR	DFR	500	Focus-Lok	C-13D	25	T-12	3⅞		**5.50**
DFT	1MT12/46	1000	Medium Prefocus	C-13D	25	T-12	5¾	28000	**6.25**
DFY	1MT12/5LR	1000	Large Index Ring (B&H)	C-13D	25	T-12	5½	28000	**7.05**
DGA	300T10TF	300	4-Pin, Tru Focus	C-13	25	T-10	4	7750	**4.05**
DGF	500T12TF	500	4-Pin	C-13D	25	T-12	4	13200	**5.00**
DGH	750T12/500	750	Medium Prefocus	C-13D	500	T-12	5¾	16000	**8.60**
DGS	1MT12/1	1000	Double Contact Medium Ring	C-13D	10	T-12	5⅛	31000	**6.75**
DHB	1MT12/4LR	1000	Vented Large Index Ring	C-13D	25	T-12	5⅛	28000	**7.25**
DHJ	DHJ	500	4-Pin	C-13D	10	T-12	4⅜		**6.75**
DHT	1200T12/50	1200	Medium Prefocus	C-13D	10	T-12	5¾	38200	**7.60**
DHW	PH1200T12/3LR	1200	Large Index Ring	C-13D	10	T-12	7¼		**11.50**
DLG	150T14TFR/LV	150	Tru Focus	CC-8	15	T-14	3 7/16		**6.10**
DMS	500T20	500	Medium Screw	C-13	50	T-20	5½	13200	**5.00**
DMX	500T20P	500	Medium Prefocus	C-13	50	T-20	5¾	13200	**5.35**
DNK	500T20/14	500	Mogul	C-13	50	T-20	5⅞	13250	**6.75**
DPJ	750T20P	750	Medium Prefocus	C-13D	25	T-20	5¾	21000	**7.75**
DPT	1M/T20	1000	Mogul	C-13	50	T-20	9 1/16	28000	**7.90**
DPW	1MT20P	1000	Mogul Prefocus	C-13	50	T-20	9½	28000	**8.50**
DRC	1MT20/13P	1000	Medium Prefocus	C-13	50	T-20	5¾	28000	**6.90**
DRS	1MT20MP	1000	Medium Prefocus	C-13D	25	T-20	5¾	28000	**6.75**
DSB	1MT20/40	1000	Mogul Prefocus	C-13D	25	T-20	9½	28500	**10.00**
DTJ	1500T20/39	1500	Mogul Prefocus	C-13D	25	T-20	9½	42500	**13.00**
EDK	EDK	500	Single Contact Bayonet	C-13D	25	T-10	4⅛	13200	**4.40**

PAR MOTOR DRIVES FOR CINE-KODAK SPECIAL, K-100 & BOLEX H-16 are light compact, strong. Deliver same torque to camera mechanism as fully-wound camera spring motor. Speeds of universal (AC-DC) motors are controlled by electric governor in complete range from 8 to 64-fps; universal motors can be operated from battery packs or other DC sources. 115-volt, 60 cycle, AC synchronous motor 24-fps, **$224.50**; reversing switch, **$48.20.** 115-volt AC electric governor controlled universal, 8 to 64-fps **$304.50.** 12-volt universal motor with reversing switch and tachometer, **$334.50.** AC control unit for 12-volt motors **$57.60.** DC control unit for universal motors **$57.60.** Tachometers for universal motors **$94.40.** Special offset base for all motors **$43.60.** Battery Pack for use with 12-volt DC motor **$198.50**

PAR 400′ MAGAZINE ADAPTATION AND MOTOR DRIVES for Bolex H-16 offers you the convenience of shooting 400′ of film without reloading, easy operation in reverse for backwinding and special effects. Daylight loading spool can be used in 400′ magazine and 100′ spools can be used in camera. No modification of camera mechanism necessary. Mitchell 400′ magazine, **$157.50;** Magazine adapter, including camera housing modification, **$306.50;** Viewfinder extension tube, **$144.50;** Spring take-up, **$274.50;** footage indicator on 400′ magazine, **$125.** PAR motor drives similar to Cine Kodak Special can be used with adaptation. Motor mount for the 400′ magazine includes a footage counter that reads to 9,999′ and can be reset to zero. Motor adapter and footage counter, **$342.50;** 12-volt DC electric governor controlled universal motor drive with reversing switch and tachometer, **$334.50**

PAR 2-SPEED TIME LAPSE AND ANIMATION DRIVE for the Kodak Cine Special provides 24fps, 4fps continuous synchronous motor drive, automatic single-frame exposure at 4fps ex-time, random single frames manually for animation, automatic time exposure and manual, other selected intervals up to 1 hr. available at slight additional cost. **$1,475. SINGLE-SPEED TIME LAPSE AND ANIMATION DRIVE,** same as 2-speed but without 24fps feature, **$985.** Frame Counter, installed on either drive, **$85**

professional editing equipment

CRAIG 4x6 PROJECTO-EDITOR takes 16mm sound or silent film, yields large, brilliant 4x6″ image on screen due to sharp f/2.8 triplet lens and coated auxiliary optics. Light source 75-watt double-contact. Separate focusing and framing adjustments, built-in frame marker. **$89.50**

CRAIG FRAME COUNTER FOR 16mm CRAIG PROJECTO EDITOR provides actual count of frames passing through Craig Projecto-Editor for use in timing scenes. Adds or subtracts frames as rewind directions are changed. Attaches with one screw, **$32.50**

GRISWOLD PROFESSIONAL 8mm-16mm SPLICER is built for heavy duty work in the laboratory, film library, industrial studio. 16mm sound film never has to be "looped around" to splice; locating sprocket pins are centered in the jaws so that 16mm sound film (single perf.) can be spliced from left to right and right to left. Solid square cut splice on film line is stronger than film itself. Size: 5¼x8⅜x3⅜″ height (closed). Available with 1/10″ overlap for positives, 1/16″ overlap for negatives. Supplied with scraper holder, 3 blades, felt moistener. Model R-3, **$36. GRISWOLD JR. SPLICER FOR 8mm & 16mm FILM** is designed to make accurate splices. (Smaller edition of the Griswold Professional.) Film locating pins in back (available with pins in front on special order). Choice of overlap of 1/10″ for positive, or 1/16″ for negative. (For 8mm film, 1/16″ overlap recommended.) Gray iron castings, lustre enamel, polished parts. Size: 4⅛x5½x3⅛″ high. Complete with scraper holder, 3 blades, felt moistener. MODEL HM-6, **$21**

NEULITE EDITING TABLE MODEL T-16-L arranges work to minimize editing time. Fluorescent light in top of table casts light between strips of cut film and white background to make identification easy. Clips at top of table hold cut strips in proper sequence, loose ends hang down in scratch-proof bin. All steel construction, utility drawer in sill, olive-gray enamel. With light switch, cord, fluorescent bulb, **$190.** (Overall size, 42″ long, 24″ wide, work surface 30″ high.) MODEL T-16 as above but without lighting unit, **$165**

NEUMADE REWINDS. Motor driven MODEL PD-1 is time and labor saver for rewinding, inspecting, or checking movie film. Ball bearing rewind has a variable six-position control that can be operated by hand or foot. Motor is fan cooled, has slip clutch to prevent damage to film from "cinching." Both units of rewind outfit are mounted on Formica panel 42x12″. **$135**

NEUMADE SYNCHROMASTERS are made for 16mm and 35mm film. Large sprockets to SMPTE Standard. Reset type footage counter, adjustable frame counter, individually adjustable tension rollers. Precision ball bearings throughout, finger-tip release, "no creep" film stripper shoes, shaft slip lock for individual frame movement. Rubber pads on table mounting feet; hammerloid enamel finish, chrome and aluminum trim. 35mm **MODEL 351** 1 hub, **$135; Model 352,** 2 hubs, **$160. MODEL 353,** 3 hubs, **$210. MODEL 354,** 4 hubs, **$260. 16mm MODEL 161,** 1 hub, **$135; MODEL 162,** 2 hubs, **$180. MODEL 163,** 3 hubs, **$210. MODEL 164,** 4 hubs, **$260 NEUMADE COMBINATION SYNCHROMASTERS** match 16mm and 35mm films frame for frame; a combination is made up of any 2 of the 35mm and 16mm machines joined together as a single unit. A precision gear assembly between them permits matching film, frame for frame, quickly and easily. Separate footage and frame counters for both 16mm and 35mm. Disengagement for separate use by simply shifting the control lever.

NEUMADE CUTTING BARRELS are made of heavy fibre with hard glaze finish; steel band on top and bottom; handles. Specifically designed for film cutters with scratch proof fabric linings for safeguarding film. MODEL CB-1, 12x36″ on request. CB-2, 18x28″, **$18.75.** CB-3, 20x30″, **$20.** Barrel linings, **$4.95.** EDITING RACKS to fit over cutting barrels described above are made of chrome plated and rust proof steel, have projecting pins for securing film strips. MODEL ER-1, 18″ high, **$15;** MODEL ER-2, 36″ high, **$18.** Specify model number of barrel on which rack will be placed.

NEUMADE 16mm FLANGES for stripping and mounting are made with duralumin sides and brass hubs. Each has removable key in hub to engage bakelite cores. Order by model number, specify if for square 16mm shaft or round 35mm shaft with key. SINGLE: MODEL HM-2, 6″ size, **$6.50.** HM-9, 10″ size. **$11.** HM-16, 14″ size, **$16.50.** DOUBLE: HM-3, 6″ size, **$10.** HM-10, 10″ size, **$15.** DAF-26, 14″ size, **$24.** COMBINATION: 16mm or 35mm (for 35mm rewind shaft only) Model HM-8, 6″ size, **$16.50.** HM-11, 10″ size, **$19.50**

editors, rewinds & viewers

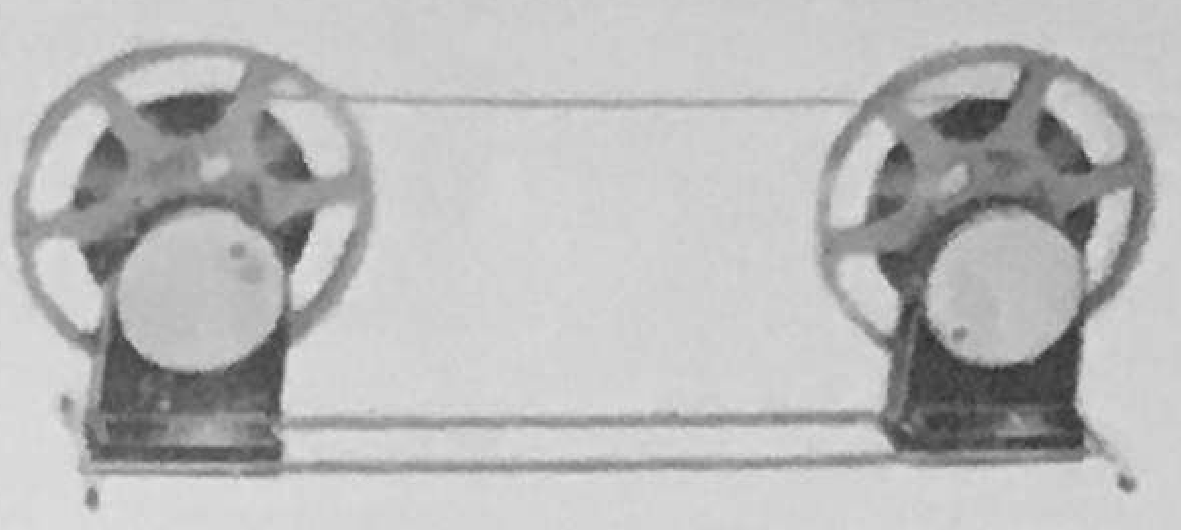
CRAIG MOVIE EDITING EQUIPMENT includes combinations or choice of rewinds, splicers and viewers . . . products of one of America's pioneer manufacturers of movie editing equipment.

CRAIG MOVIE VIEWER is supplied separately for the movie maker who already has splicing and rewinding equipment. Large screen (3¼x4¼″) is hooded for switch. Is controlled by the film gate. Has focusing and framing adjustments, built-in frame marker, 75 watt lamp. Model V-8 for 8mm film; Model V-16, for 16mm film. Viewer only. **$49.50**

MASTER GEARED REWINDS accept 8 or 16mm reels up to 2000-ft. capacity; large wooden handles and adjustable brake provide easy winding; locking device on each spindle holds reel securely; pair **$18.50.** JUNIOR GEARED REWINDS accept 8 and 16mm reels up to 400-ft; entirely enclosed and dust-free; pair, **$7.95**

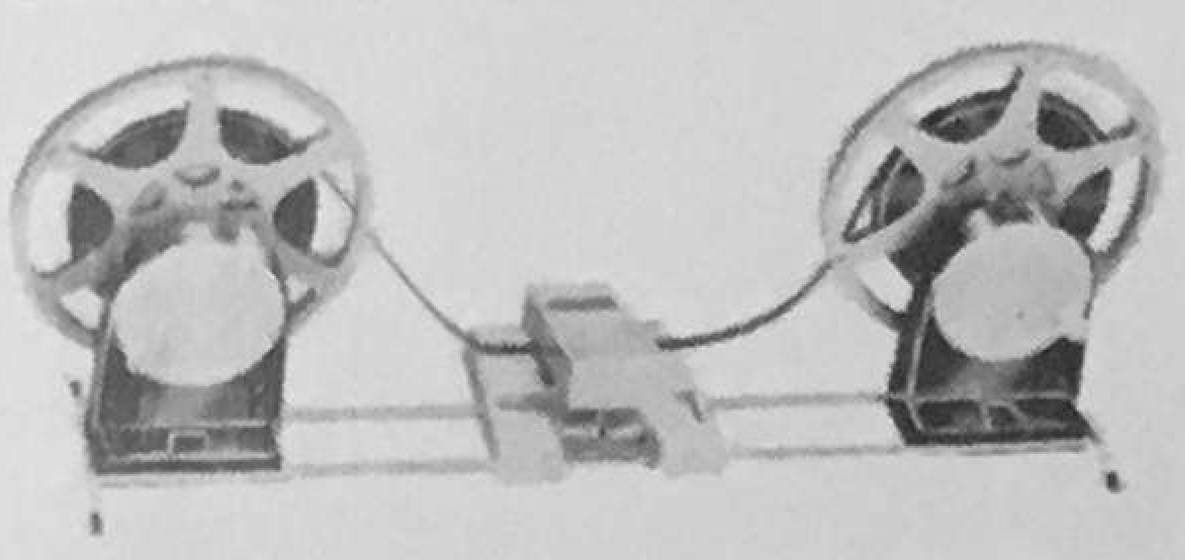
MASTER EDITING COMBINATION includes Master Splicer, 2 Master Geared Rewinds, film cement, hardwood base, **$31.35**

KODAK MOVIE REWIND (8mm and 16mm) consists of a pair of rewinds, each of which has a 4 to 1 gear ratio, and a wire bracket into which the rewinds



are inserted for use and from which they can be withdrawn for easy storage. Capable of handling all size reels up to and including 400′, **$5.95**

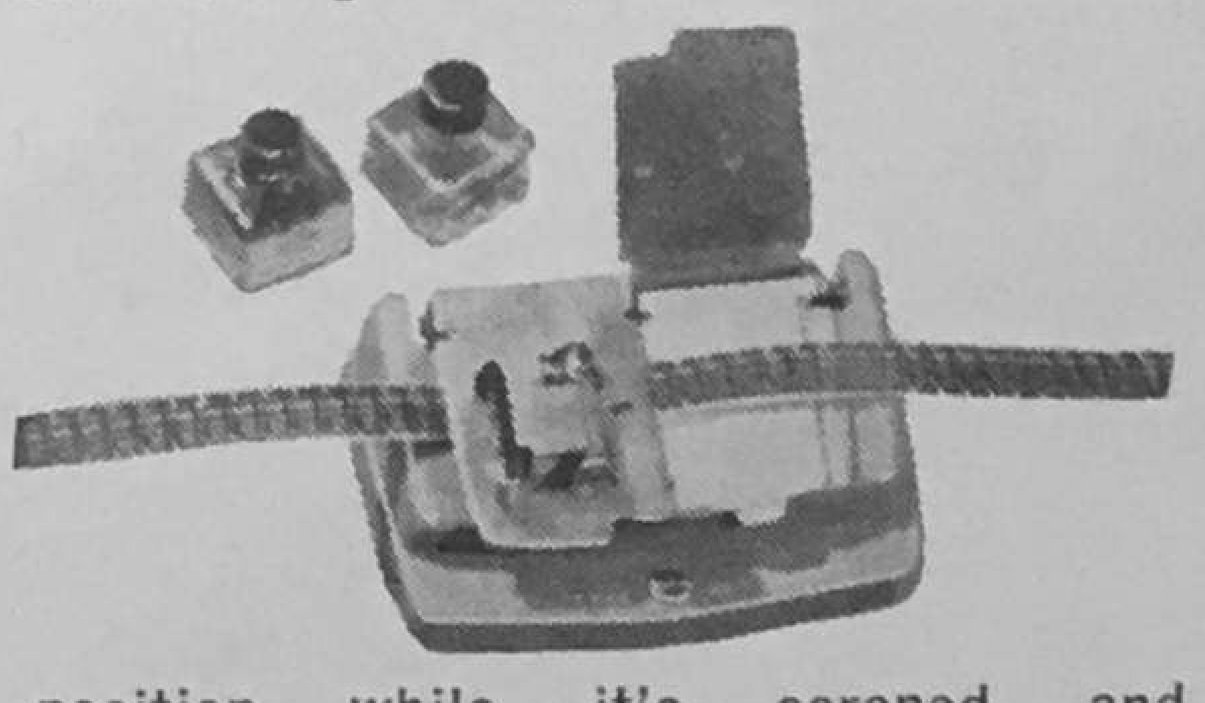
KODAK PRESSTAPE EDITING OUTFIT, inexpensive new unit for 8mm and 16mm movie editing. Consists of Kodak Movie Rewind and Presstape Splicer. Rewind spindles feature quiet, nylon gears (4 to 1 turning ratio for rapid winding in either direction); accept 400-ft reels.



Splicer fits onto base. With supply of Presstapes, **$12.95** (reels extra); Rewind alone, **$5.95**

splicers

CINE-KODAK DUO SPLICER OUTFIT . . . Eastman's newest splicing outfit. Smartly and sturdily constructed. It's ingeniously devised to make splicing simple and pleasurable. Double set of firm-holding twin platens lock film in



position while it's scraped and cemented. Rubber feet prevent creeping. Precision designed and accommodates both 8 and 16mm (sound and silent) movie film. Complete with easy-to-follow instruction booklet for use with both 8 and 16mm film. **$10.95**

MASTER SPLICER for 8 or 16mm sound or silent film; splices quickly and per-

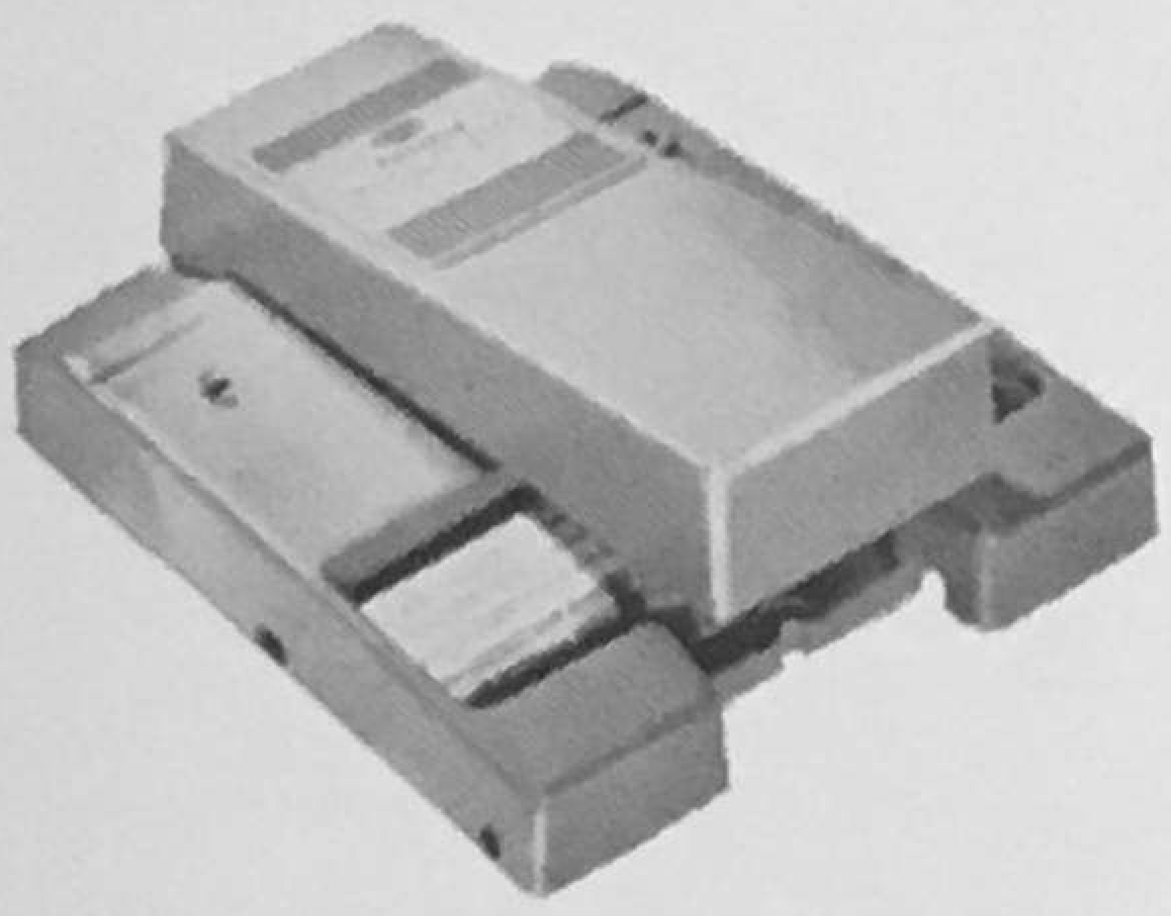
continued on next page

16MM SOUND REPRODUCER LAMPS

A.S.A. Code	Volts	Amps.	Base	Filament	Rated Life (Hrs.)	Bulb	Max. Overall Length	Approx. Lumens	Price Each
BFT	4	.75	S. C. Bay.	C-6	50	S-8	2	32	**$ .70**
BFX	4	.75	S. C. Pre.	C-6	50	S-8	2	32	**.80**
BGB	4	.75	D. C. Pre.	C-6	50	S-8	2	32	**.90**
BRD	4	.75	S. C. Bay.	C-6	50	T-5	2	30	**1.05**
BRK	4	.75	S. C. Pre.	C-8	50	T-5	2⅜	32	**1.30**
BRS	4	.75	S. C. Pre.	C-6	50	T-5	2	30	**1.15**
BRX	6	1.0	D. C. Pre.	C-6	100	T-5	2	70	**1.25**
BSK	6	1.0	S. C. Pre.	C-6	100	T-5	2	70	**1.15**
BSS	6	1.0	S. C. Pre.	C-8	100	T-5	2⅜	70	**1.30**
BSW	7	.2	S. C. Pre.	C-8	50	T-5	2⅜	15	**1.35**
BTD	7	.2	D.C. Pre.	C-6	50	T-5	2⅜	15	**1.20**
BVK	5	6.5	S. C. Pre.	C-8	50	T-8	2⅝	365	**1.25**
BVS	5	6.5	S. C. Pre.	C-8	50	T-8	3⅛	365	**1.25**
BXB	8.5	4.0	S. C. Pre.	C-8	100	T-8	3⅛	670	**1.40**
BXC	8.5	4.0	S. C. Bay.	C-6	100	T-8	3⅛		**1.10**
BXJ	8.5	4.0	S. C. Bay.	C-8	100	T-8	3⅛	670	**1.30**
BXN	10	5.0	S. C. Pre.	C-6	100	T-8	3⅛	1000	**1.20**

manently; built-in dry scraper; one-piece cast base, bronze crackle finish; splicing unit chromium-finished, **$9.95**

KODAK PRESSTAPE SPLICER is a new movie-making accessory that makes quick dry and interlocking splicers on 8 or 16mm movie film. Splicer cuts a unique notched section out of one frame to be spliced and a corresponding section out of the other. The two pieces of film are fitted snugly together. A strip of backing is stripped off the adhesive of one of the 10 perforated Presstapes that come with the splicer, and the adhesive side is placed on the film. The splice is secure and the film ready immediately for showing. With ten 8mm and ten 16mm Presstapes, **$7.50**; additional packets of 20 tapes, **50¢**



KODAK JUNIOR MOVIE SPLICER is a handy tool for emergency splicing of 8&16mm movie film. Includes splicer, scraper, bottle of cement. **$2.95**

GRISWOLD JUNIOR SPLICER. An all-purpose, easy-to-operate unit, built to last through years of service. Performs accurate splicing of 8mm or 16mm film, sound or silent. Made especially for the home movie-maker, it embodies the features he will need to find the operation pleasurable. Finished in baked Japan enamel; it will resist rust and corrosion. Two models: Deluxe R-3 for 16mm only, **$32.** Junior Model for 8 and 16mm, **$21**

projection tables

NEUMADE PROJECTION TABLES are rigid steel, have tilting tops. Large rubber-covered ball-bearing casters (2 swivel-brake 2 stationary). Top tilts to any angle up to 10° rise with spiral gears, controlled by hand wheel. Adjustable bar prevents machine slippage. Finished in olive gray baked on enamel. Model T-134C, with 3″ diameter casters **$94.50.** Model T-134, same as above but with cast-iron feet for permanent position **$82.50**

WILSON MOVIE MOVERS are fully welded all steel equipment carriers, finished in double-baked, sandalwood colored, silicone-based paint. No nuts or bolts to loosen or snag. Shelves are 18x24″ and have flanges around the edges. ¼″ foam rubber top protects equipment and absorbs vibration. 4 inch casters with one piece rubber wheels. Toe operated rear wheel brakes. With 20′ UL 3-wire cord, 3 shelf unit: 40″H, **$36.95;** w/o cord, **$32.95;** 32″H, **$35.95;** w/o cord, **$31.95;** 2 shelf, 26″H, **$33.95;** w/o cord, **$29.95;** Screen carrier, **$5.95;** Power cord & rack assembly only, **$9.95**

book

MOVIE TECHNIQUES FOR THE ADVANCED AMATEUR by George Regnier, edited and with additional material by Myron A. Matzkin. This superbly edited translation from the French covers all phases of movie making: producer, scenarist, set designer, sound man, etc. Excellent illustrations. **$4.95**

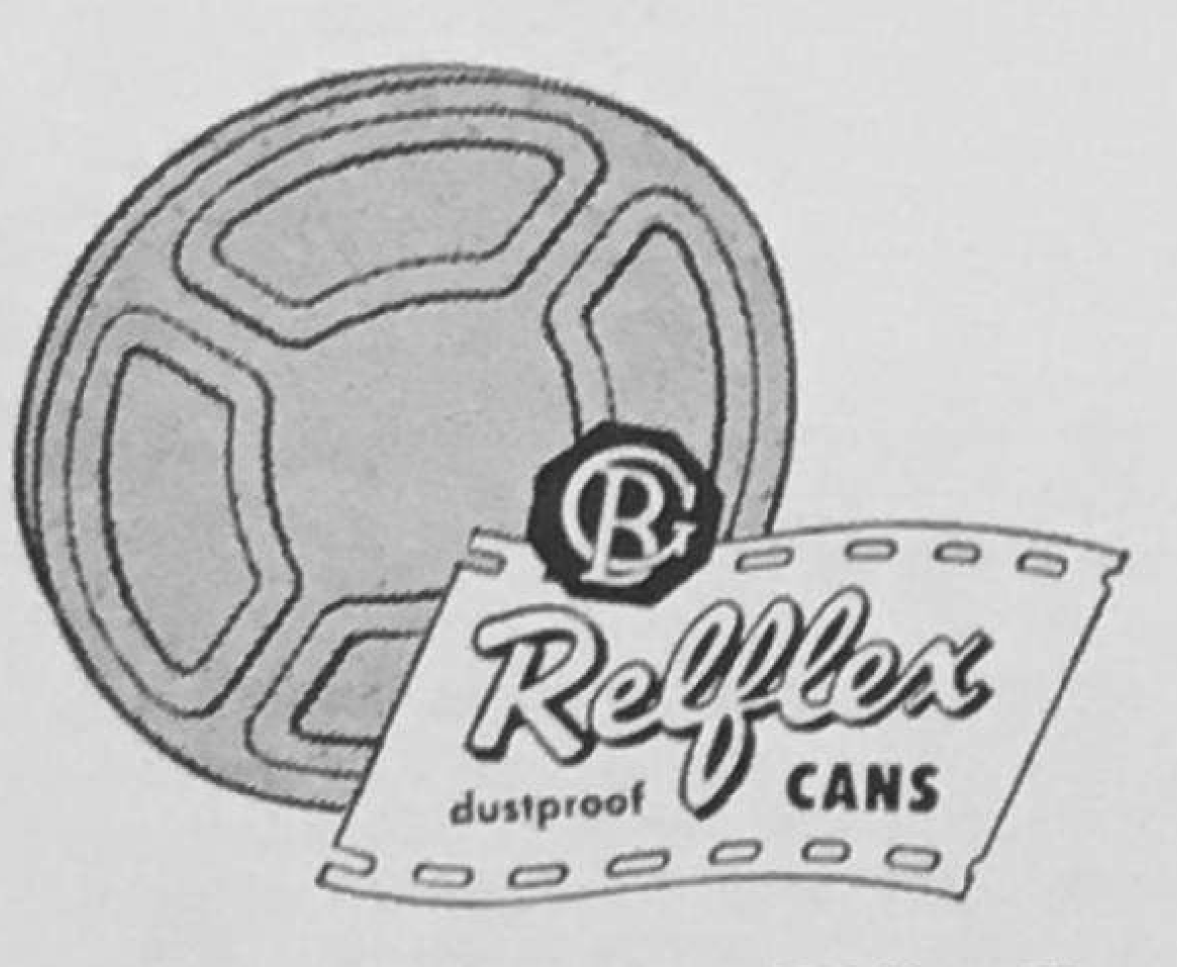
reels, cans & chests

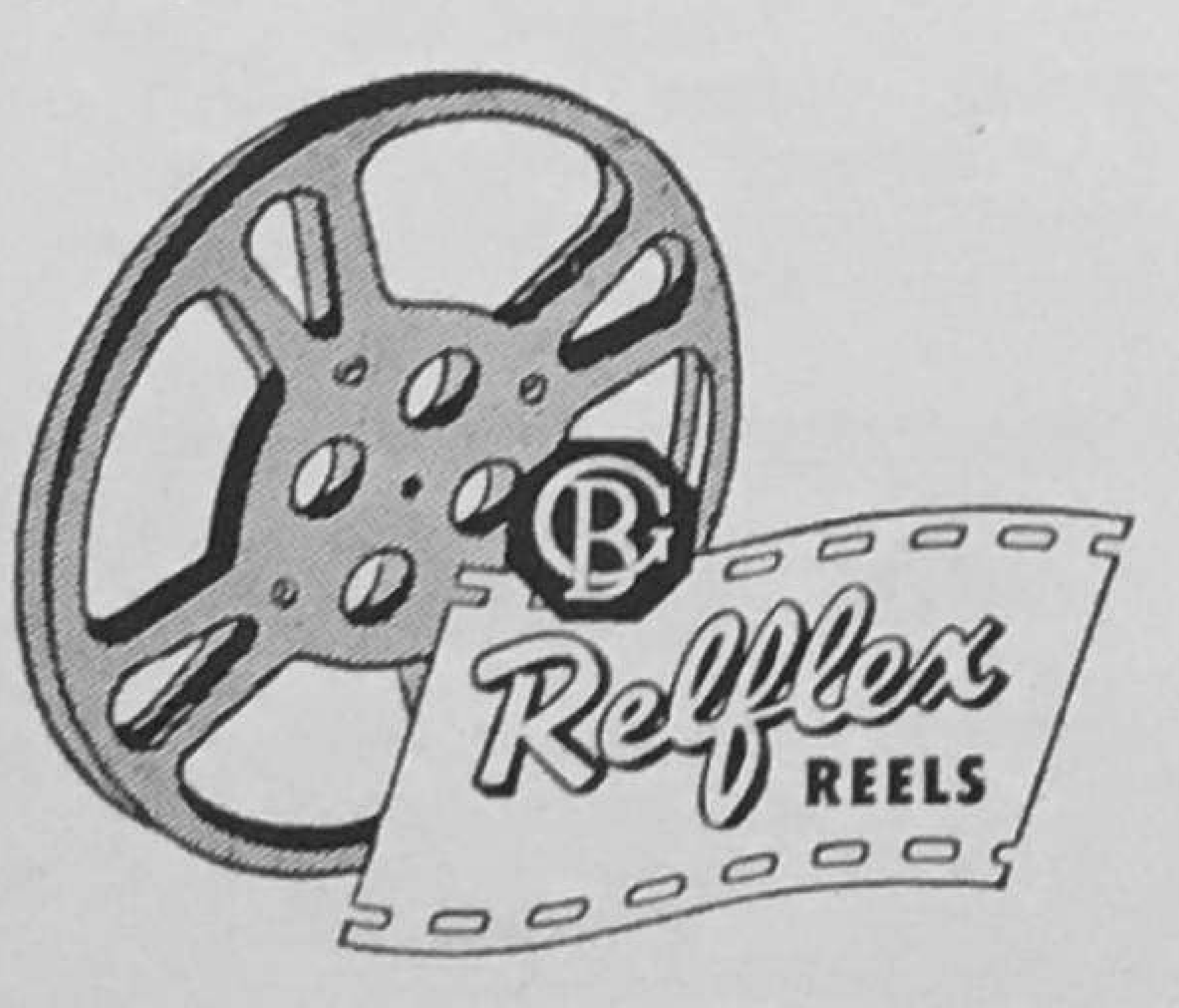
BAJA REEL CASES are two-tone brown tweed, felt lined cases, which feature no grooves, no partitions, and "no rattles." Cases open from the top, have sturdy hardware, solid 3-ply veneer bodies, shaped carrying handle. Models to accommodate 200, and 400-ft. reels of 8mm and 16mm film. **$6.95** and **$7.95**

BRUMBERGER "ECONOMY" REEL CHESTS store 8 and 16mm movie film safely and conveniently. Strongly constructed of steel. For twelve 8mm reels and cans: #1001, 200 ft. **$3.25;** #1002, 300 ft. or #1003, 400 ft. **$3.95.** For nine 16mm reels and cans; #1005, 400 ft. **$3.95**

BRUMBERGER REELS & CANS & REEL CHESTS. Tempered steel construction. Reels grip firmly after ¾ turn. Footage markings at 50′ intervals. Perfectly balanced. Reels and cans boxed in sets. #1018 (8mm 200′) **$1.10** per set. #1019 (8mm 300′) **$1.30** per set. #1020 (8mm 400′) **$1.50** per set. #1024 (16mm 200′) **$1.20** per set, no box #1026 (16mm 400′) **$1.50** per set. Reel chests have exterior and interior index cards. Finger grip moves can forward. #1008 holds 12 8mm 200′ reels and cans **$6.50.** #1009 holds 12 8mm 300′ reels and cans, **$7.50.** #1010 holds 12 8mm 400′ reels and cans, **$7.95.** #1016 holds 9 16mm reels and cans, **$7.50**

GOLDBERG REFLEX FILM REELS AND CANS are brown hammertone finished steel. Packaged individually and in display cartons of one dozen. 8mm: 200-ft., **70¢;** 300-ft., **80¢;** 400-ft., **85¢;** 16mm: 200-ft., **80¢;** 400-ft., **80¢;** 600-ft., **$2.30;** 800-ft., **$2.50;** 1200-ft., **$3.00;** 1600-ft., **$3.35;** 2000-ft., **$4.95.** Six-Pak, six reels and cans packed in a handy carrying case and storage carton: 8mm: 200-ft. Six-Pak, **$8.40;** 300-ft. Six-Pak, **$9.60;** 400-ft. Six-Pak, **$10.20;** 16mm: 400-ft. Six-Pak, **$10.20**





KODAK MOVIE REELS AND FILM CANS —Protect film from dust, and curl. Can be marked easily for identification. Make possible long, uninterrupted showings. The 200 and 400-foot reels have the "easy load" slot. 400′ 16mm Reel & Can, **$2.55;** 400′ 16mm Can, **$1.30;** 400′ 16mm Reel, **$1.40;** 1600′ 16mm Reel & Can, **$6.50;** 1600′ 16mm Reel, **$3.50;** 2000′ 16mm Reel & Can, **$9.95;** 2000′ 16mm Reel, **$5;** 200′ 8mm Reel & Can, **$1.35;** 200′ 8mm can, **70¢;** 200′ 8mm Reel, **90¢;** 400′ 8mm Reel & Can, **$2.15;** 400′ 8mm Can, **$1.10;** 400′ 8mm Reel, **$1.20**

NEGA-FILE CINE FILM CHESTS are handsome hardwood chests, sturdily built, partitioned with solid wood, and fitted with brass plated lock and key, hinges, handle rings, and lid-tray. Felt pads on front and back of chest to keep film cans from rattling. #200-12, 12 reels 200′ 8mm, natural finish, **$9.75;** #300-12, 12 reels 300′ 8mm, **$9.95**

miscellaneous cine accessories

AUTOMATIC DISSOLVE ATTACHMENT FOR CINE-KODAK SPECIAL attaches easily to camera without drilling of hole. Makes dissolves, fade-ins, fade-outs. Camera shutter can be closed or opened manually with attachment installed. Fits any model Cine-Kodak Special. With installation instructions, **$48**

CRAIG FOTOFADE produces professional looking fades or wipes on processed film by chemical action. Effects can be obtained on black-and-white or color film wherever desired during editing. Solution can be reused indefinitely. 1 package, **85¢**

KODAK CINE LENS ADAPTERS—Permit use of auxiliary lenses. For use with Kodak Cine Lenses having Type S mount. Type C for Cine-Kodak K-100 and 16mm cameras with standard Type C threaded lens mount, **$10.50.** Type M for Cine-Kodak Royal Magazine Camera and Cine-Kodak Magazine 8 and 16 cameras, **$12.25**

PAR FULL FRAME GROUND GLASS VIEWER FOR BELL & HOWELL 200-TA CAMERA provides an image identical with that "seen" by the film. The viewer incorporates a ground glass reticle and auxiliary viewing tube, mounted on the camera's right side. If desired, dual power magnification (offering high power for critical focusing) is available. Brown wrinkle enameled finish harmonizes with cameras. **$150.** Right angle viewing prism permits shooting while looking 90° away from subject. **$47.50**

PAR 400 ft. MAGAZINE FOR KODAK CINE SPECIAL requires no motor drive when spring take-up is used, does not prevent use of regular Kodak 100 ft. film chamber. Easy operation in reverse for backwinding and special effects. Can be removed instantly from camera with loss of only 18″ of film. Footage counter. Accepts daylight loading spools. Send us your 100 ft. chamber only; adaptation for 400 ft. magazine **$424.25;** 400 ft. magazines, each **$157.50.** **PAR SPRING TAKE-UP FOR 400 ft. MAGAZINE.** One winding takes up to 400 ft. of film, forward or reverse; camera spring operates in normal manner. **$274.50.** **PAR 400-ft. MAGAZINE FOR KODAK K-100, $369.50;** Magazines, each, **$150;** Viewfinder Extension: 1½″, **$52.50**

PAR 4-LENS TURRET FOR KODAK CINE SPECIAL accommodates simultaneously four Cine-Ektar lenses in "C" mount adapters or equivalent "C" mount lenses, including 15mm wide-angle and 152mm telephoto lens with sunshade, without optical or mechanical interference. Flick of wrist changes from wide-angle to telephoto. "Constant apparent-field" viewfinder makes possible automatic simultaneous change of camera and finder fields by rotating turret. Tube, housing optical elements, is easily removed to permit film chamber loading and/or changing. Edge of turret is completely protected by turret housing. Positive turret indexing mechanism assures centering of desired lens; once positioned, turret cannot be moved unless manually released. Shutter release is located on back of turret housing. Film chamber gate is opened and closed by button on back of turret housing. Special base permits film chamber changing and spring winding without removing camera from tripod. Finish and styling match Kodak Cine Special. Pan Cinor lenses can be used without modification; also accommodates Elgeet stereo system. For Cine Special 1, installed in your camera **$434.50;** for Cine Special II, Installed **$442.50.** Four finder objectives **$60.** "C" mount adapters, each **$10.50.** **PAR CABLE RELEASE FOR CINE SPECIAL** is 3 ft. long, easily installed on Model I or II without camera modification. Requires only the removal of two screws in camera nameplate, adjacent to single-frame shaft. For Cine Special cameras with Par 4-lens turret, including factory installation, **$24.50.** For Cine Special cameras without Par turret, **$29.50**

PAR SINGLE FRAME RELEASE SOLENOID FOR CINE SPECIAL fits Model I and II. Provides easy push-button operation of single-frame release without jarring camera. Features adjustable solenoid release actuating mechanism. Useful in animation or sequence work, as in photographing manufacturing processes, etc. Can be used on Cine Specials equipped with Par turrets. **$98.50.** For Cine Specials not equipped with Par turrets, a special relieved base is available, **$43.60**

books

THE AMERICAN CINEMATOGRAPHER MANUAL edited by Joseph V. Mascelli, Arthur Miller and Walter Strenge is the most comprehensive compilation of motion picture production data ever assembled in a single book. All data is based upon modern Hollywood studio practices and actual cinematographic techniques. The Manual is divided into 12 sections and thoroughly indexed. 4x6x⅞″, over 375 pages, **$7.50**

HANDBOOK OF BASIC MOTION-PICTURE TECHNIQUES, by Emil E. Brodbeck. With this basic handbook, every amateur motion-picture cameraman can improve the quality of his films, for here are the simple techniques which make the difference between unskilled and professional movie making. Contents: Treasure Chest of Mechanics and Techniques; Panning; Using the Tripod; Shot Breakdown; Screen Direction; Matching Action; Newsreel Technique; Build-up; Composition; Indoor Lighting; Applied Technique; Index. McGraw-Hill. 320 pages, 6x9, illustrated, **$6.50**

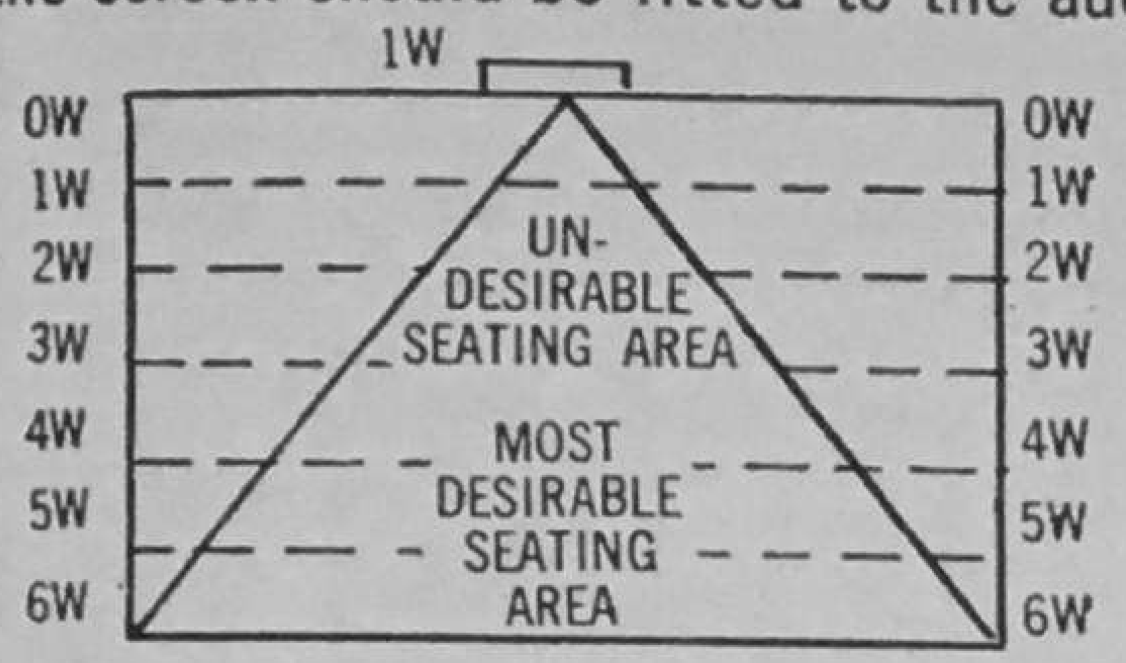
THE TECHNIQUE OF FILM ANIMATION by John Halas and Roger Manvell. This new handbook is the first complete one on all phases of animation. It covers all factors of animation including production, studio organization, animation forms, glossary of terms, etc., **$10**

16 MM. SOUND MOTION PICTURES by William H. Offenhauser. Contains all the answers for the professional and amateur, on sound, silent, and television in one 592 page book. Without a doubt the most authoritative single reference of its kind. **$12.50**

TV AND FILM PRODUCTION DATA BOOK by Ernest M. Pittaro. Working data to solve the constant production problems of directors, producers, cameramen, engineers, recorders, animators, electricians, television and film studio personnel and advertising agency personnel. Schools and libraries will find it an excellent training guide for students of professional methods. Pocket size, compact, approximately 500 pages (4¼x7), sturdy, lightweight stamped library binding and colorful jacket, charts, diagrams, tables and photographs. **$6.95**

HOW TO CHOOSE YOUR PROJECTION SCREEN

Projection quality, operating ease and long life are the important factors to consider . . . The type of projector, lens and projection distance determine the correct screen size . . . buy the largest size you expect to use in the future, thus avoiding expensive replacement. The size of your audience is also related to the size of your screen particularly in an auditorium where the screen should be fitted to the audience and not to the room or projector . . . the 2 and 6 rule applies eg: 2x the screen width should equal the distance from the screen to the first row of seats — 6x the screen width should equal the distance from screen to last row of seats (see chart).



W-I-D-E SCREEN PROJECTION . . .

The dramatic impact and heightened realism of wide screen projection, already commonplace in Hollywood motion pictures, is now within reach of schools, churches and industry in the 16mm movie field. To determine the correct size screen for Cinemascope or other wide screen process, first find the proper size for conventional projection. Then, keeping the same height, double the width. For example: if the best size screen for conventional pictures is 9′ high x 12′ wide, a screen 9′ high x 24′ wide would be proper for Wide Screen projection. Minimum height recommended however is 4′.

WHAT IS THE BEST SURFACE?

We can help you select the proper screen and surface for your specific needs whether you require a silver surface for stereo and color projection, a glass-beaded surface for sharp, brilliant all-purpose use, matte-white for widely diffused reflectivity, or the new lenticular surface for maximum brightness on axis and minimum fall-off at side viewing angles.

8 mm MOVIES—Sound and Silent

Lens Focal Length		SCREEN WIDTH												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
¾″	Projection Distance	11′	14′	18′	22′	25′	31′	35′	39′	44′	52′	61′	70′	79′
1″		15′	19′	24′	29′	34′	41′	46′	52′	58′	70′	81′	93′	105′
1½″		22′	29′	36′	44′	53′	61′	70′	78′	87′	104′	122′	139′	151′

16 mm MOVIES—Sound and Silent

Lens Focal Length		SCREEN WIDTH												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
1″	Projection Distance	7′	9′	11′	13′	15′	18′	21′	24′	26′	32′	37′	42′	47′
1½″		10′	13′	17′	20′	23′	28′	32′	36′	40′	48′	56′	64′	72′
2″		13′	18′	22′	26′	31′	37′	42′	47′	53′	63′	74′	84′	95′
2½″		16′	22′	27′	33′	38′	46′	53′	59′	66′	79′	92′	105′	119′
3″		20′	26′	33′	40′	46′	55′	63′	71′	79′	95′	110′	126′	142′
3½″		23′	31′	38′	46′	54′	64′	74′	83′	92′	110′	128′	147′	165′
4″		26′	35′	44′	53′	61′	73′	84′	95′	105′	122′	147′	169′	190′

35 mm FILM STRIPS

SINGLE FRAME IMAGE—17.5 mm x 23 mm (.692″ x .906″)
MAXIMUM APERTURE .906″ x .906″

Lens Focal Length		SQUARE SCREEN SIZE												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
3″	Projection Distance	8′	11′	14′	17′	19′	23′	27′	30′	33′	40′	47′	53′	60′
4″		11′	15′	19′	22′	26′	31′	36′	40′	44′	53′	62′	71′	80′
5″		14′	19′	23′	28′	32′	39′	44′	50′	56′	68′	73′	89′	100′
6″		17′	22′	28′	33′	39′	47′	53′	60′	67′	80′	93′	107′	120′
7″		19′	26′	32′	39′	45′	55′	62′	70′	78′	94′	109′	125′	140′
8″		22′	29′	37′	45′	52′	62′	71′	80′	89′	107′	125′	142′	160′

2¼″ x 3¼″ SLIDES

MAXIMUM APERTURE 2⅞″ x 2⅞″

Lens Focal Length		SQUARE SCREEN SIZE												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
6″	Projection Distance	5′	7′	9′	10′	12′	15′	17′	19′	21′	25′	29′	33′	37′
9″		8′	10′	13′	16′	18′	22′	25′	28′	31′	37′	44′	50′	56′
12″		10′	14′	17′	21′	24′	29′	33′	38′	42′	50′	58′	67′	75′
16″		14′	19′	23′	28′	32′	39′	44′	50′	56′	66′	78′	89′	100′
20″		17′	23′	29′	35′	40′	49′	56′	63′	69′	83′	97′	111′	125′
24″		21′	28′	35′	42′	48′	58′	67′	75′	83′	100′	116′	133′	150′

2″ x 2″ SLIDES—35 mm

DOUBLE FRAME IMAGE—23 mm x 34 mm (.906″ x 1.34″)
MAXIMUM APERTURE 1.34″ x 1.34″

Lens Focal Length		SQUARE SCREEN SIZE												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
3″	Projection Distance	6′	7′	9′	11′	13′	16′	18′	20′	22′	27′	31′	36′	40′
4″		7′	10′	12′	15′	17′	21′	24′	27′	30′	36′	42′	48′	54′
5″		9′	12′	16′	19′	22′	26′	30′	34′	37′	45′	52′	60′	67′
6″		11′	15′	19′	22′	26′	31′	36′	40′	45′	54′	63′	72′	80′
7″		13′	17′	22′	26′	30′	37′	42′	47′	52′	63′	73′	84′	94′
8″		15′	20′	25′	30′	35′	42′	48′	54′	60′	72′	84′	95′	107′

2¼″ x 2¼″ SLIDES

MAXIMUM APERTURE 2⅛″ x 2⅛″

Lens Focal Length		SQUARE SCREEN SIZE												
		30″	40″	50″	60″	70″	84″	8′	9′	10′	12′	14′	16′	18′
5″	Projection Distance	6′	8′	10′	12′	14′	16′	19′	21′	23′	28′	33′	37′	42′
6″		7′	9′	12′	14′	16′	19′	22′	25′	28′	33′	39′	44′	50′
7″		8′	11′	14′	16′	19′	23′	26′	29′	33′	39′	46′	52′	59′
9″		11′	14′	17′	21′	24′	29′	33′	38′	42′	50′	58′	66′	75′

3½″ x 4″ SLIDES (LANTERN)

MAXIMUM APERTURE 3″ x 3″

Lens Focal Length		SQUARE SCREEN SIZE						
		50″	60″	70″	84″	8′	9′	10′
6″	Projection Distance	8′	12′	14′	16′	18′	20′	20′
9″		13′	15′	18′	21′	24′	27′	30′
12″		17′	20′	23′	28′	32′	36′	40′
16″		22′	27′	31′	37′	43′	48′	53′
20″		28′	33′	39′	47′	53′	60′	67′
24″		33′	40′	47′	56′	64′	72′	80′

OPAQUE PROJECTION

MAXIMUM APERTURE 10″ x 10″

Lens Focal Length		SQUARE SCREEN SIZE				
		50″	60″	70″	84″	8′
18″	Projection Distance	9′	10′	12′	13′	16′
20″		10′	12′	13′	16′	17′
22″		11′	13′	15′	17′	19′
26″		13′	15′	17′	20′	23′

OVERHEAD PROJECTION

Aperture Size		SQUARE SCREEN SIZE				
		50″	60″	70″	84″	8′
7″	Projection Distance	7′	9½′	12	15′	17′
9″		6½′	9′	10′	12′	15′
10″		6′	7½′	9′	11′	12′

KODAK PROJECTION SCREEN (40x40″) MODEL 2—For use with movie or slide projectors. Opens to 30x40″ or 40x40″ and can be adjusted in overall height. Glass beaded screen. Legs open automatically at a touch, close easily. **$16.95**

DA-LITE COMET SCREEN®, an economy-priced model, has all-metal lightweight tripod, rose tone hammerloid finished case, new bright silver-like plating with rich plastic leg shoes. 30x40″, **$16.95;** 40x40″, **$18.95;** 37x50″, **$20.95;** 50x50″, **$24.95**

DA-LITE PICTURE KING® SCREENS have duralumin tripod, picture surface that can be raised or lowered on one operation; all-metal octagon case; five height adjustments with locking device.

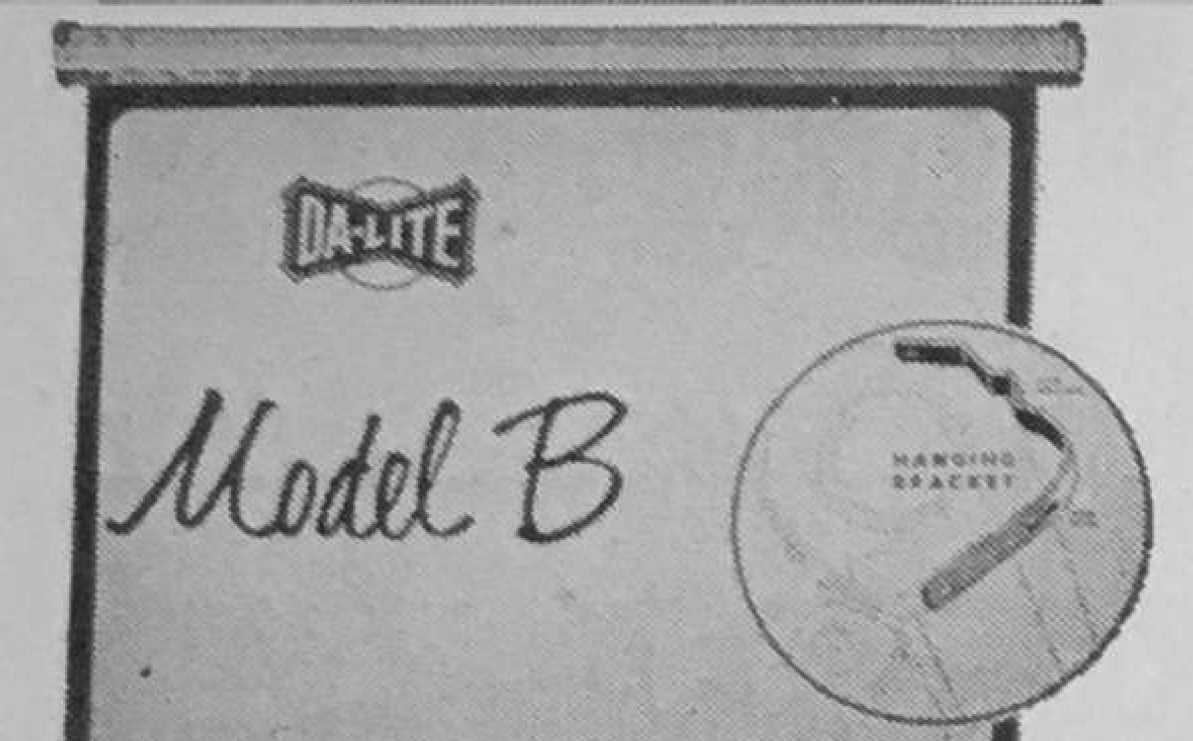
	Screen	Case
63x84″	**$112.95**	**$12.50**
84x84″	**114.95**	**12.50**
72x96″	**134.95**	**13.75**

DALITE TRIPOD SCREENS have "White Magic" glass beaded surfaces, are mildew and flame resistant. **GOLDEN CHALLENGER®** . . . just touch the "Push-Button"—extension tube pops up —legs glide open—sets up in seconds.

DA-LITE
Picture King
TRADE MARK

Square screens are adjustable to rectangular picture areas; octagon-shaped case, balanced for easy carrying. 30x40″, **$27.95;** zipper case, **$3.98;** 40x40″, **$29.95;** case, **$3.98;** 37x50″, **$35.95;** with gold and black case. 50″ case, **$4.98**

DA-LITE MODEL B* PORTABLE HANGING SCREEN is perfectly balanced, Standard Glass-Beaded or Mat White fabric, mildew and flame resistant; all-metal octagon case; sturdy hanging brackets. 30x40″, **$15.95;** 40x40″, **$16.95;** 37x50″, **$21.95;** 50x50″, **$23.95;** 45x60″, **$31.95;** 60x60″, **$37.95;** 52x70″, **$39.95;** 70x70″, **$48.95;** 63x84″, **$65.95;** 84x84″, **$71.95;** 72x96″, **$79.95** *Trade Mark



DA-LITE SCENIC ROLLER* SCREEN is raised and lowered by means of ropes and pulleys; roller is attached to lower end of screen, wooden batten at top edge. 8x10′, **$147;** 10x10′, **$164;** 9x12′, **$170;** 12x12′, **$189;** 5′ 6″x14′, **$174;** 10½x14′, **$195;** 14x14′, **$249;** 6′x16′, **$202;** 12x16′, **$249;** 16x16′, **$270;** 7x18′, **$210;** 13½x18′, **$285;** 18x18′, **$320;** 8x20′, **$244;** 15x20′, **$330;** 20x20′, **$395** *Trade Mark

DA-LITE HANDY* SCREEN can be used on table, wall or with regular camera tripod. White magic glass-beaded surface. All-metal blue hammerloid-finish case. Sturdy tubular slat; balance roller for smooth winding; metal base bar tapped to fit standard camera tripod; plated wire easel. 30x30″, **$8.95** with mildew and flame resistant fabric **$9.50** *Trade Mark

DA-LITE VERSATOL ® have famous White Magic Glass-Beaded surface. "Push Button" opening, automatic leg lock, case and fabric rise with one operation. Case has eye-appealing tan-beige hammerloid finish, bright metal plating, durable and caps for fitted leg shoes.

	Screen	Case
30x40′	**$22.95**	**$3.98**
40x40′	**25.95**	**3.98**
37x50′	**29.95**	**4.98**
50x50′	**33.95**	**4.98**
45x60′	**39.95**	**5.49**
60x60′	**45.95**	**5.49**
52x70′	**47.95**	**5.98**
70x70′	**52.95**	**5.98**

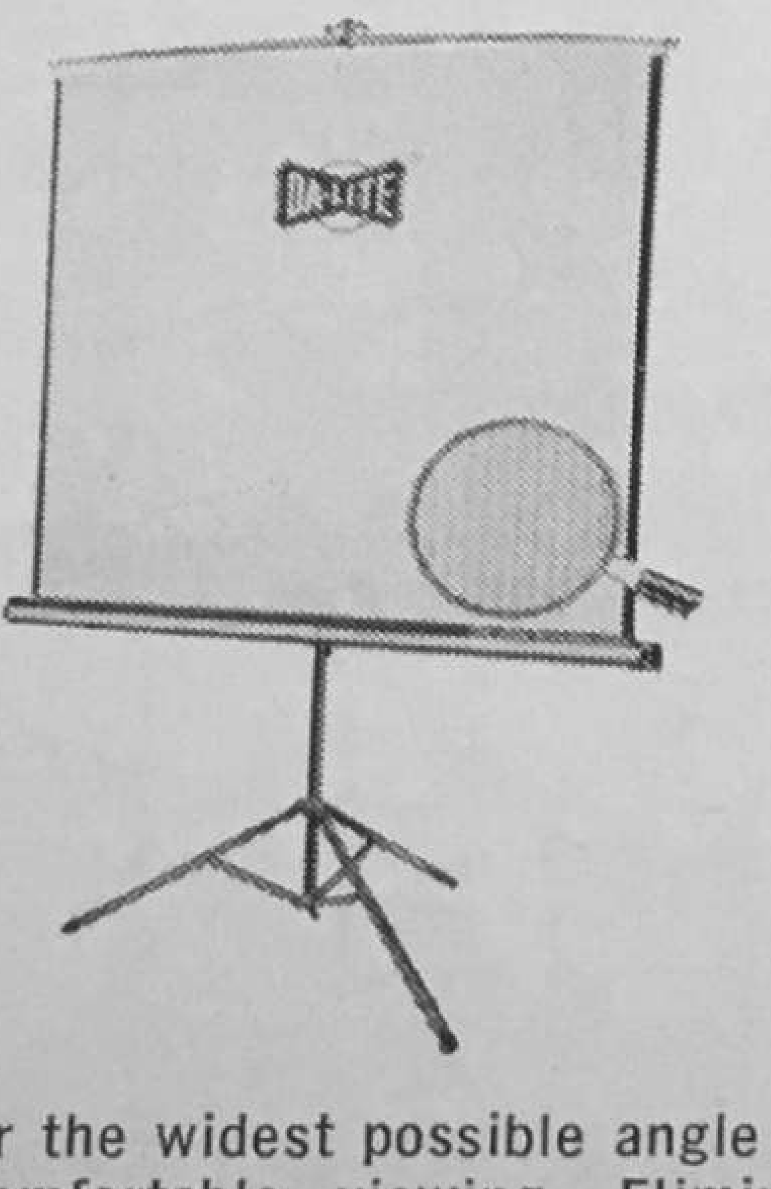
DA-LITE
Model C
WITH FLOOR STAND

DA-LITE MODEL C* SCREENS are designed for larger audiences, are easily installed to hang from wall or ceiling; all-metal hexagon case; end-caps have built-in hangers. 6x8′, **$99.50;** 8x8′, **$106.50;** 7x9′, **$109.50;** 9x9′, **$119.50;** 4x10′, **$129.50;** 8x10′, **$132.50;** 10x10′, **$142.50;** 5x12′, **$177.50;** 9x12′, **$179.50;** 12x12′, **$199.50;** Model C floorstand to convert the Model C to a lightweight portable . . . fits sizes 6x8′ through 9x12′, **$89.50**

*Trade Mark

DA-LITE WALL SCREENS feature glass-beaded projection surfaces. **DA-LITE ELECTROL®** is a motor-driven screen that can be hung from wall or ceiling; limit switch for automatic operation; AC motor; switch rolls or unrolls surface instantly; can be installed with hangers or in ceiling recesses. 6x8′/ **$425;** 8x8′, **$440;** 7x9′, **$445;** 9x9′, **$460;** 8x10′, **$465;** 10x10′, **$475;** 9x12′, **$495;** 12x12′, **$520;** 10′6″x14′, **$525;** 14x14′, **$550;** 12x16′, **$595;** 16x16′, **$625;** 13x6″x18′, **$720;** 18x18′, **$760;** 15x20′, **$775;** 20x20′, **$850;** **DA-LITE JUNIOR ELECTROL** . . . famous White Magic Glass-Beaded Surface, low-cost dependable electricity operated screen, runs on standard 110AC circuit. Flick the switch, automatically stops when fully opened or closed. 50x50″, **$225;** 70x70″, **$228** 6x8′, **$250;** 8x8′, **$265;** 7x9′, **$270;** 9x9′, **$280;** 8x10′, **$295;** 10x10′, **$305;** 9x12′, **$315;** 12x12′, **$325** *Trade Mark

DA-LITE WONDER-LITE LENTICULAR SCREEN FABRIC. A product of modern scientific research. Wonder-Lite lenticular is Da-Lite's established standard for "controlled brightness" permits projection over the widest possible angle with safe, comfortable viewing. Eliminates glare back and eye fatigue. The finest lenticular fabric you can buy. 40x40″, **$39.95;** 50x50″, **$49.95**



DA-LITE "JR"* SCREENS are lightweight, easel-type for table or wall use. Glass-beaded projection surface is mounted in slotted metal tube, rolls into compact unit. Spring-wire upright keeps surface taut. 18x24″, **$4.50;** 22x30″, **$5.50;** 30x30″, **$6.50;** 30x40″, **$8.50.** *Trade Mark

RADIANT AUTOLECTRIC (ELECTRICALLY OPERATED) SCREEN. Mounted on wall or ceiling. AUTOLECTRIC operated from any standard outlet. Limit Control Switch and brand new motor provide dependable operation, smooth release and positive locking. Standard model in eight sizes. 6x8′, **$245;** 8x8′, **$260;** 7x9′, **$265;** 9x9′, **$280;** 8x10′, **$290;** 10x10′, **$298;** 9x12′, **$310;** 12x12′, **$318.** Senior model (wood case) in six sizes. 10½x14′, **$515;** 14x14′, **$540;** 12x16′, **$585;** 16x16′, **$630;** 13½x18′, **$695**

RADIANT IMPERIAL COLORMASTER Model CMO. Especially designed for perfection of color and detail definition. Truly Lenticular OPTIGLOW silver fabric brings out brilliance of slides and movies in lighted as well as darkened rooms. Full depth of Stereo. Instant tensioning with Automatic Roller Lock for drum-tight projection surface. "Atom-Action" leg opening for quick set-up with a touch of the toe. 30x40″, **$36.95;** 40x40″, **$41.95;** 50x50″, **$51.95**

RADIANT IMPERIAL SCREENMASTER Model DLL with new truly Lenticular UNIGLOW. This new surface is unbeaded, and provides a greater viewing area than beaded and silver, greater brightness than matte white. "Tip-toe" leg lock opens tripod legs instantly, smoothly, 8 sizes: 30x40″ **$37.95;** 40x40″, **$39.95;** 37x50″, **$43.95;** 50x50″, **$49.95;** 45x60″, **$67.95;** 60x60″, **$71.95;** 52x70″, **$71.95;** 70x70″, **$79.95**

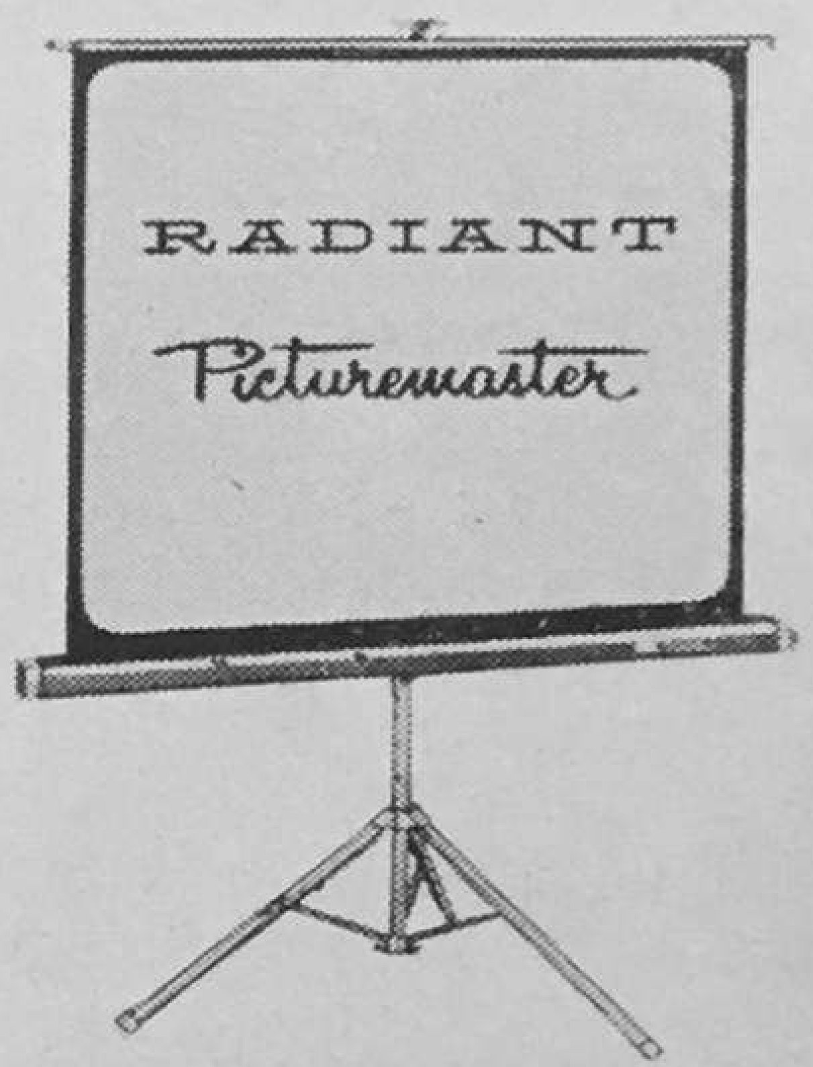
RADIANT
screenmaster

RADIANT ROPE & PULLEY MODEL WE. Economical wall or ceiling installation where large size screens are required at minimum cost. Fungus resistant HY-FLECT glass beaded surface is fine-grained for excellent results with movies, slides, filmstrips, etc., in color or black and white. Screen has simple, trouble-free rope and pulley arrangement which permits full adjustability of the exposed projection surface. Square sizes may be converted to oblong or to wide-screen aspect ratios. Easy to install. 11 sizes: 8x10′, **$148;** 10x10′, **$165;** 9x12′, **$170;** 12x12′, **$185;** 10½x14′, **$205;** 14x14′, **$235;** 12x16′, **$245;** 16x16′, **$260;** 13½x18′, **$285;** 18x18′, **$320;** 15x20′, **$325**

RADIANT WALL MODEL W. All-purpose Wall and Ceiling Screen of outstanding design where a permanent or semi-permanent installation is desired. Peak performance at an economy price. Lightweight, sturdy metal case supplied with dual-purpose wall or ceiling hangers. Fungus resistant Hy-Flect glass-beaded projection surface hangs evenly, rolls up or down effortlessly.

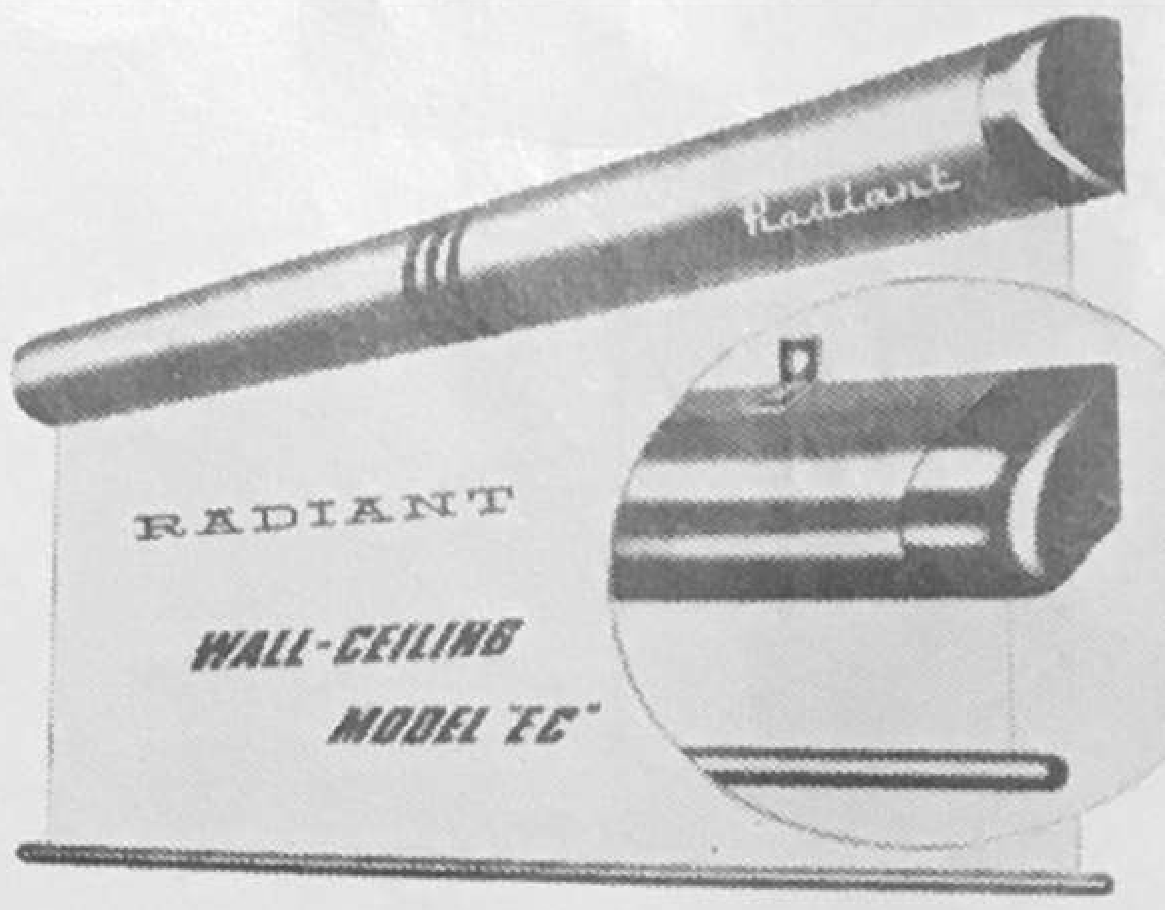
In eleven sizes. 30x40″, **$14.95;** 40x40″, **$16.95;** 37x50″, **$21.95;** 50x50″, **$24.95;** 45x60″, **$30.95;** 60x60″, **$36.95;** 52x70″, **$39.95;** 70x70″, **$47.95;** 63x84″, **$64.95;** 84x84″, **$70.95;** 72x96″, **$78.95**

RADIANT PICTUREMASTER MODEL PM. Top quality, fine-grain, fungus resistant HY-FLECT glass beaded screen that offers all luxury features with amazing economy. TOEmatic leg lock and balanced construction for easy set up and carrying; diecast handle; all metal slat bar seals out dirt, avoids scuffing of surface when screen is stored. Modern rhomboid case finished in hammerloid blue with polished chrome trim; full height adjustability; square sizes for slides convert to oblong for movies.



Perfect for movies and slides in color or black and white. 3 sizes: 30x40″, **$19.95;** 40x40″, **$21.95;** 50x50″, **$28.95**

RADIANT WALL-CEILING Model EC. Simple, efficient large-audience Screen, the attractive "EC" can be hung conveniently from either wall or ceiling by strong, dual purpose brackets. Highly reflective, fine-grain glass-beaded surface provides sharp, brilliant projection quality. Securely anchored to spring roller, moves up or down smoothly, easily. Lightweight, rigid metal case fully protects fabric from dust when rolled up. Eight sizes. 6x8′, **$99;** 8x8′, **$105;** 7x9′, **$110;** 9x9′ **$119;** 8x10′, **$127;** 10x10′, **$143;** 9x12′, **$175;** 12x12′, **$199**



RADIANT TABLETTE MODEL T. Handy table top model, ideal for editing and previewing. Self contained arm holds HY-FLECT fine-grained beaded surface firmly in place for projection. 18x24″, **$4.50;** 22x30″, **$5.50;** 30x30″, **$6.50;** 30x40″, **$8.50**

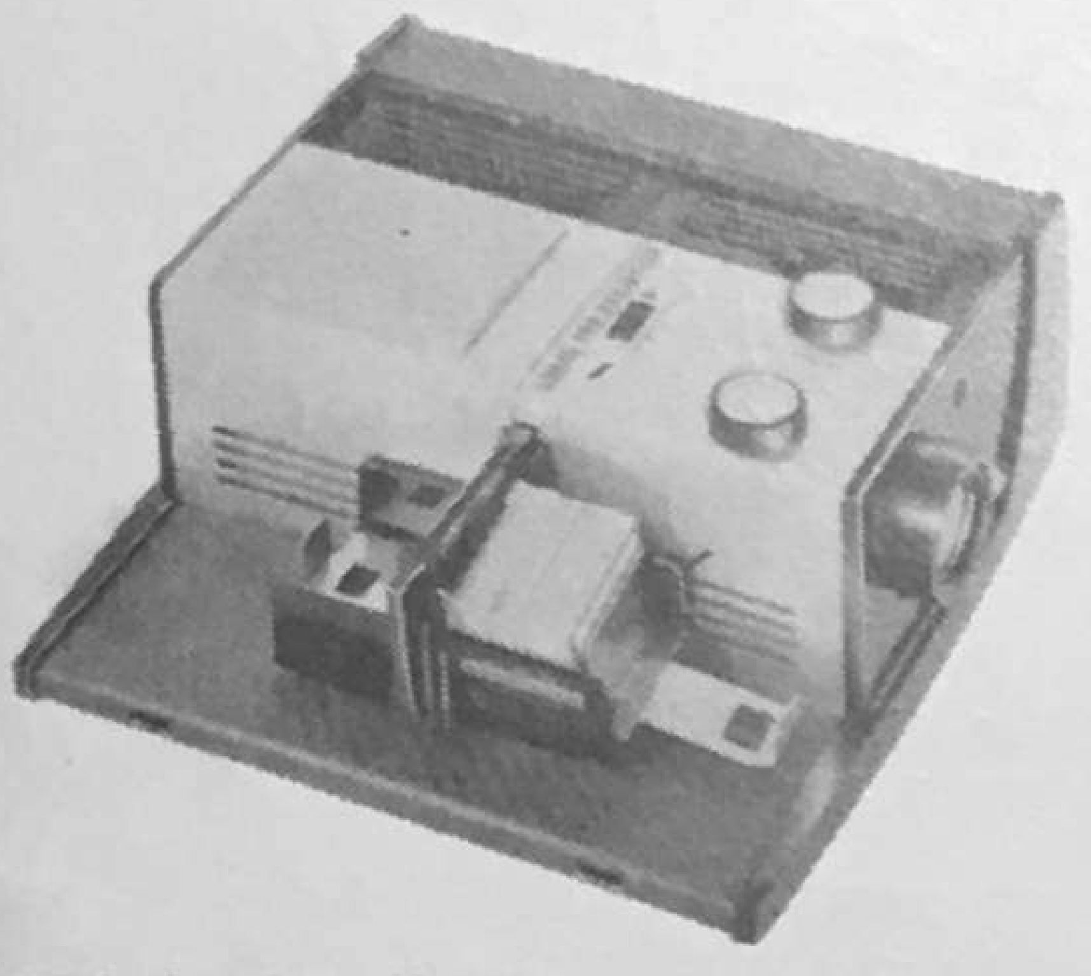
RADIANT CARRYING CASES. Radiant waterproof carrying case will protect tripod Screen from dust and dirt, make it more convenient to carry. Full length heavy duty zipped closure, easy slip on and off. Constructed in durable reinforced plastic fabric. Available in four sizes. 40″, **$5.95;** 50″, **$6.95;** 60″, **$7.45;** 70″, **$8.45**

RAVEN SCREENS for motion pictures or slide projection, come in a variety of models and sizes. Surfaces are beaded, Matwhite, or rear-projection. Sound perforation is also available, as are tripods, rollers, and mountings.

STILL PROJECTORS

2x2″ slide projectors

KODAK 500 PROJECTOR, MODEL B. Compact, slide projector offered with selection of 3 slide changers at new low price. Self-contained unit in rugged case. **LAMP:** Code CZA, 500-watt for greater light output & operating life. **LENS:** 4″ Kodak Projection Ektanon f/3.5, with rack focusing. Simple knob controls for elevation & focusing; condenser lens elements easily removed for cleaning. Preview screen as well as space for cord storage is provided. Shows 35mm, Bantam or super-slides. With Readymatic Changer, **$67.95;** with Universal Changer, **$69.95;** with Automatic Changer, **$74.95**



KODAK READYMATIC CHANGER—For use with Kodak 300 and Kodak 500 Projectors and (with Kodak Readymatic and Universal Adapter) Kodaslide Signet 500 Projectors, Model 2. Allows projection of single slides or groups of up to 36 slides in 2x2 cardboard mounts. Actuating changer handle automatically advances slides. **$7.95**

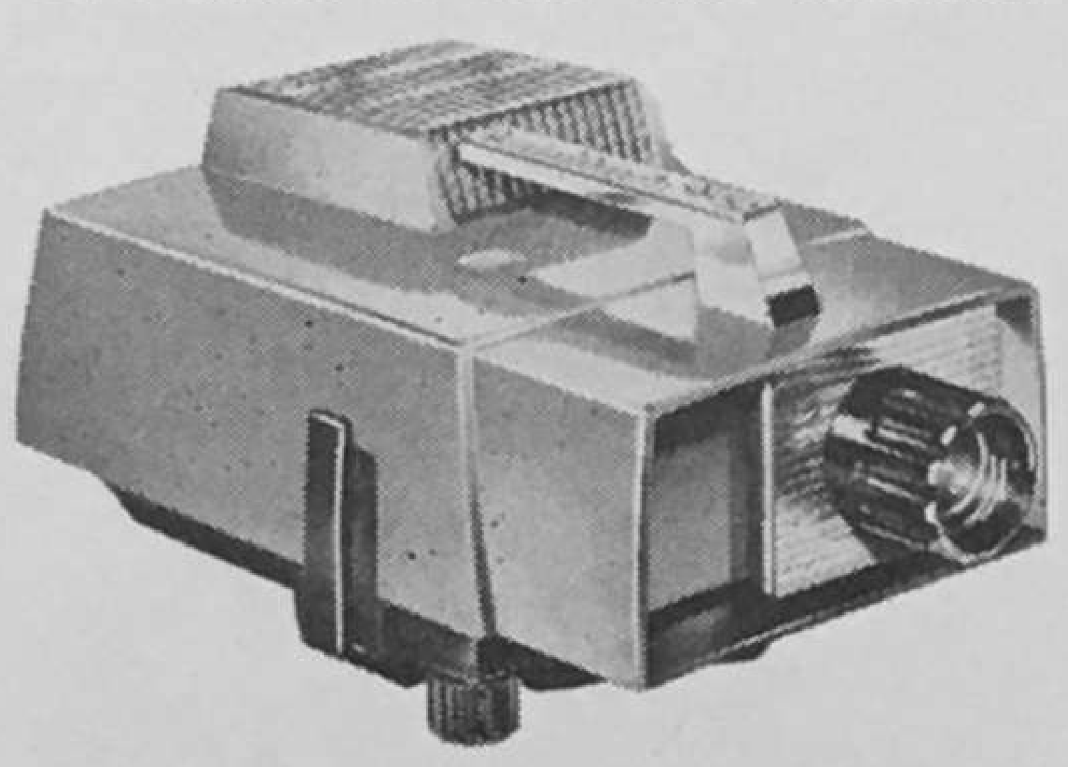
KODAK UNIVERSAL CHANGER—For use with Kodak 300 and Kodak 500 Projectors and (with Kodak Readymatic and Universal Adapter) Kodaslide Signet 500 Projectors, Model 2. Has slide tray holding 36 slides in cardboard, glass, metal, and plastic 2x2 mounts. Actuating changer handle automatically advances slides. **$11.95**

AIREQUIPT AUTOMATIC CHANGER (For Kodak slide projectors)—Slides are permanently stored and protected in handy 36-compartment metal magazine. Simple push-pull movement of changer handle projects slide, stores it, and automatically advances magazine to next slide. Complete with one magazine and any one of Airequipt Adapters listed below. **$14.95.** No. P-107 (for Kodak 300 and 500 Projectors) **50¢;** No. P-118 (for Kodaslide Signet 500 Projector, Model 2), **50¢;** P-91 (for Kodaslide Signet Projector, Model 1), **50¢;** No. P-75 (for Kodaslide Projector, (Master Model), **50¢;** No. P-37 (for Kodaslide Projector, Models 1A and 2A), **50¢;** Magazine for Airequipt Automatic Changer, **$2.25**

BELL & HOWELL HEADLINER 706 PROJECTOR. No "pop" projection of 2x2, bantam, and Super slides. SELECTRON semi-automatic slide changer. Push-button tilt control. Low silhouette styling—only 7″ high. Rugged die-cast aluminum construction. Built-in carrying case with tough vinyl fabric finish. Preview screen in cover. LENS: coated 4″ f/3.5 anastigmat, helical focusing. LAMP: new 300-watt "short" model. Powerful AIR COLUMN cooling. 105-125V, AC. MODEL 706S **$59.95. BELL & HOWELL HEADLINER 707M PROJECTOR.** New, extremely compact projector for 2x2, bantam, and Super slides. Coated 5″ f/4 anastigmat lens, helical focusing. Push-button tilt. 300-watt "short" lamp and powerful full-time blower cooling. All die-cast aluminum includes DELUXE MANUAL CHANGER. 105-125V, AC operation, **$39.95**

GRAFLEX CONSTELLATION MARK II 2 x 2 Slide Projector features brand new modern design. Project your 35mm, Bantam and Super Slides with new clarity and brilliance. Unique new pre-popping feature eliminates nuisance of slides that pop out of focus. Projects slides by remote control or push button on projector or by manual movement of slide lever—all without touching the slides by hand. Includes remote control cord; single frame stereo slot; 4″ f/3.3 lens; 500 watt Tru-focus lamp, 1 Airequipt Magazine and Single Slide Editor. Blower cooled; Elevating, leveling devices; 3-way switch with carrying case, **$99.50**

REALIST 400 AUTOMATIC PROJECTOR 3111 Sleek, distinctive, compact, it invites comparison with even the highest-priced projectors. In slate green with gold and black trim, the 400 features a 3-element, 4-inch f/4 lens that fills a 40x40″ screen at 9 feet with pictures of remarkable clarity and brilliance. Proximity reflector-type lamp gives a 25% increase in picture brilliance; jet-flow convection cooling keeps slides in their best condition. Independently adjusting elevating screws eliminate screen and table tilt. The jam-proof Realomatic slide system, with handy 30-slide trays, removes, positions and replaces slides in sequence in trays with one simple push-pull motion. Index viewer on top of projector shows slide numbers, tells you "where you are" in slide tray. With one 30-slide tray, **$29.95. REALIST 990 SEMI-AUTOMATIC PROJECTOR 3161** (without timer) and one slide tray, **$59.95**



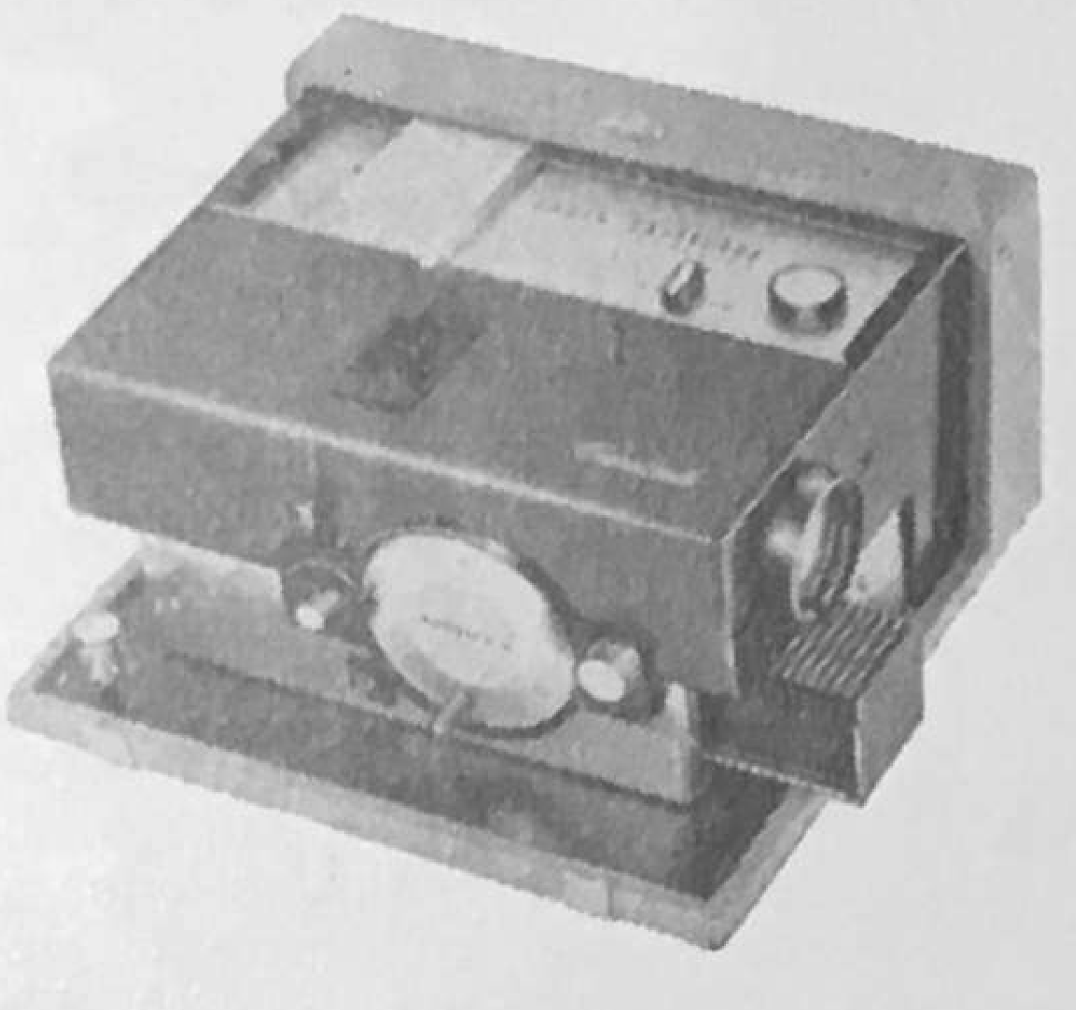
REALOMATIC PROJECTION OUTFIT 3120 has 400 Automatic Projector, 6 extra slide trays and carrying case, **$44.95**

SAWYER'S "500" SLIDE PROJECTORS . . . "500" manual automatic model takes 36-slide tray for 35mm or super-slides in all types of mounts. "Easy-Edit" flip top tray lets you edit slides without removing: 4″ f/3.5 color corrected lens; 500W lamp; micro-focus; quiet, turbo-cooled. With slip-on case **$69.95. SAWYER'S "500" E**—above features plus push-button elec. slide changing, **$79.95. SAWYER'S "500" S**—similar to "500" model without tray reverse; chrome trim, **$54.50. SAWYER'S "500" R**—fully remote control; focus, change, reverse by pressing remote control keys, **$99.95.** Easy-Edit trays, ea. **$1.45;** attache case for 8 trays, **$8.95**

See page 34
for projection tables

2x2″ automatic, remote control projectors

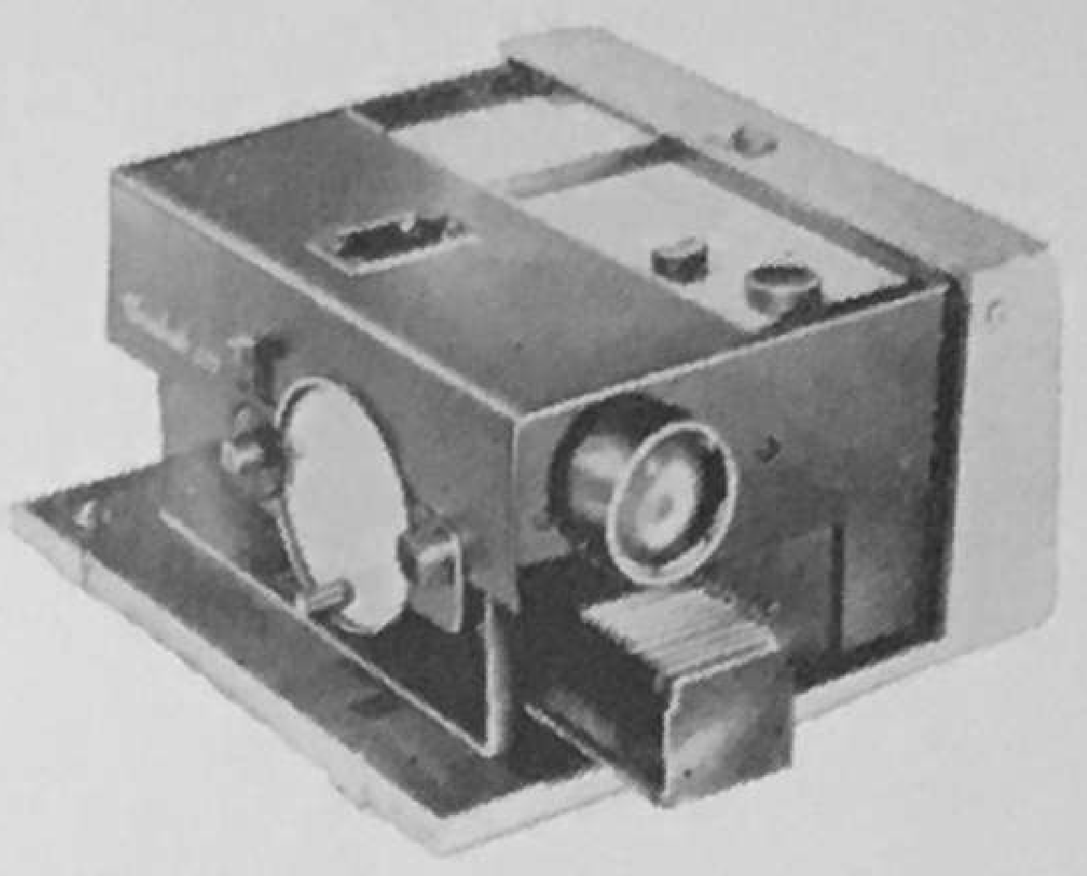
KODAK CAVALCADE SLIDE PROJECTOR is new, deluxe, completely automatic, embodies the latest engineering advances for color slide showing. Offers choice of three methods of advancing slides: automatic cycling with 4, 8, or 16 second intervals between slides; powered slide changing, operated either from projector or by remote control cord; manual changing by rotating advance wheel (this hand wheel can advance or reverse slide sequence and may be used even when projector is set for automatic operation). Warm air pre-conditions slides to minimize focus shift. Steel protector holds each slide in magazine, thus protecting slides regardless of their condition. Slides are permanently stored in either a 40-compartment magazine (for cardboard mounts) or a 30-transparency magazine that accepts virtually any type of mount. Slides always stay upright. Easy editing for more interesting show can be accomplished without removing from projector; slide may be withdrawn easily or a new one inserted in its place. Selector switch gives choice of 300 and 500 watt brilliance. Rapid action shutter enables split-second slide changing. **LENS:** Extra fast 5″ f/2.8 Kodak Projection Ektanar; Micro-focus knob action; easy elevating and focusing. LAMP: 500-watt with "Focus-Lok" base for quick removal. Versatile condenser system is removable for easy cleaning. The Cavalcade is smartly styled; comes complete with 40-slide tray, remote control cord, sturdy plywood case covered in handsome grey fabric, preview screen built into cover, movable pointer. Model 510, **$139.50.** Extra 40-slide trays, per pair, **$4.75;** 30-slide trays, per pair, **$4.50.** Kodak carrying case for Kodak Cavalcade Slide Trays, **$10.95.** Kodak remote extension cord, 25-foot, **$2.25.** Kodak protective cover for Kodak Cavalcade Projectors. **$7.50.** 4″ and 7″ f/3.5 lenses, rack focusing, available as accessories.



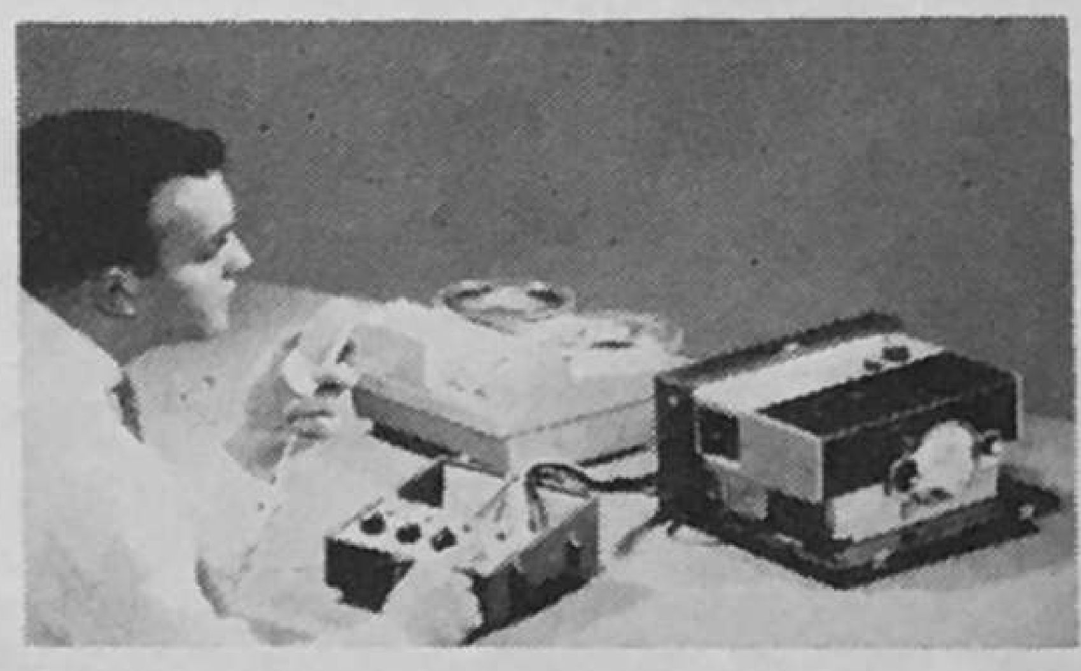
KODAK CAVALCADE MODEL 510. Kodak's most versatile slide projector. Changes slides automatically at 4, 8 or 16-sec. intervals; semi-automatic by push-button or remote control; or manually forward or reverse. Single slides may be shown or edited without removing tray. Slides held in tray by metal protector. **LENS:** 5″ f/2.8 Ektanar. **LAMP:** Hi-Lo switch for 300 or 500 watt power. Slides preconditioned for constant focus. Movable pointer; dark screen interval between slides; easy focusing and elevating. With case, preview screen & one tray, **$139.50.** With new f/3.5 Zoom Lens, adjustable in focal length from 3¾ to 6¼ inches, **$159**

KODAK CAVALCADE 520 offers top value. Has most feaures of deluxe Model 510. Built-in timer changes slides at pre-selected intervals—automatically. Slides may be edited without removing trays. LENS: 5″ f/3.5 Ektanar. LAMP: 500 watt. **$109.50.** With new f/3.5 Zoom Lens, adjustable in focal length from 3¾ to 6¼ inches, **$136.50.**

KODAK REPEATING CAVALCADE MODEL 540 provides continuous slide show for sales or advertising. Similar to 520 but automatically repeats show as many times as desired. Tray accepts 40 slides or less. Hi-Lo switch for 300 or 500 watt power, **$199.50**



KODAK CAVALCADE PROGRAMMER MODEL I is an electronic device which permits the operator to record narration, with musical background if desired, simultaneously with "trip signals" which will automatically change slides in the projector. The device links most tape recorders and any Kodak Cavalcade Projector. The narrator controls recording of the slide-trip signals with a button on the Programmer, enabling him to view the slide show and record his commentary simultaneously. During playback, the trip signals on the tape are detected by the Programmer and relayed to the projector, which advances the slides automatically.



Tape recorders, either single or dual track, with provision for playing through an external speaker and which are capable of recording and playing back a frequency of 6,500 cycles per sec. can be utilized. The Programmer is the central control unit when coupled to a recorder and projector. The Programmer's power cord will power both recorder and projector. Only one electrical outlet required at the scene of the screening. Cords from the Programmer attach to the tape recorder microphone and speaker jacks and to the projector's remote control outlet. Separate microphone inputs in the Programmer permit the mixing of narration and background music to add interest and professionalism to slide shows. The Kodak Cavalcade Programmer Model I operates on 105-125 volt, 60 cycle AC. The Programmer is about 9⅝x9⅜x5⅜″ and weighs about 4½ lbs. It is styled to match the Cavalcade Projectors. **$95**

AIREQUIPT SUPERBA 77: Fully automatic 500 watt slide projector with a new kind of built-in remote control that focuses the lens and both advances and reverses the magazine. Features 4-way operation: Remote control, Push buttons on the projector, fully automatic built-in timer changes slides automatically at from 2 to 4 second intervals, and built-in manual slide carrier. Special editing door permits editing with magazine in projector. 4″ f/3.5 lens. Unique down-draft antipop cooling-system. Lightweight (only 11 lbs.) and extremely compact. Uses standard 36 slide Airequipt metal magazines. **$119.95.** Other Airequipt SUPERBA models, same size and styling: **SUPERBA 66-500W** fully automatic, **$94.50.** (Pneumatic remote control—forward only, **$3.95) SUPERBA 44-500W** Semi-automatic, **$69.95. SUPERBA 33-300W** Semi-automatic, **$59.95**

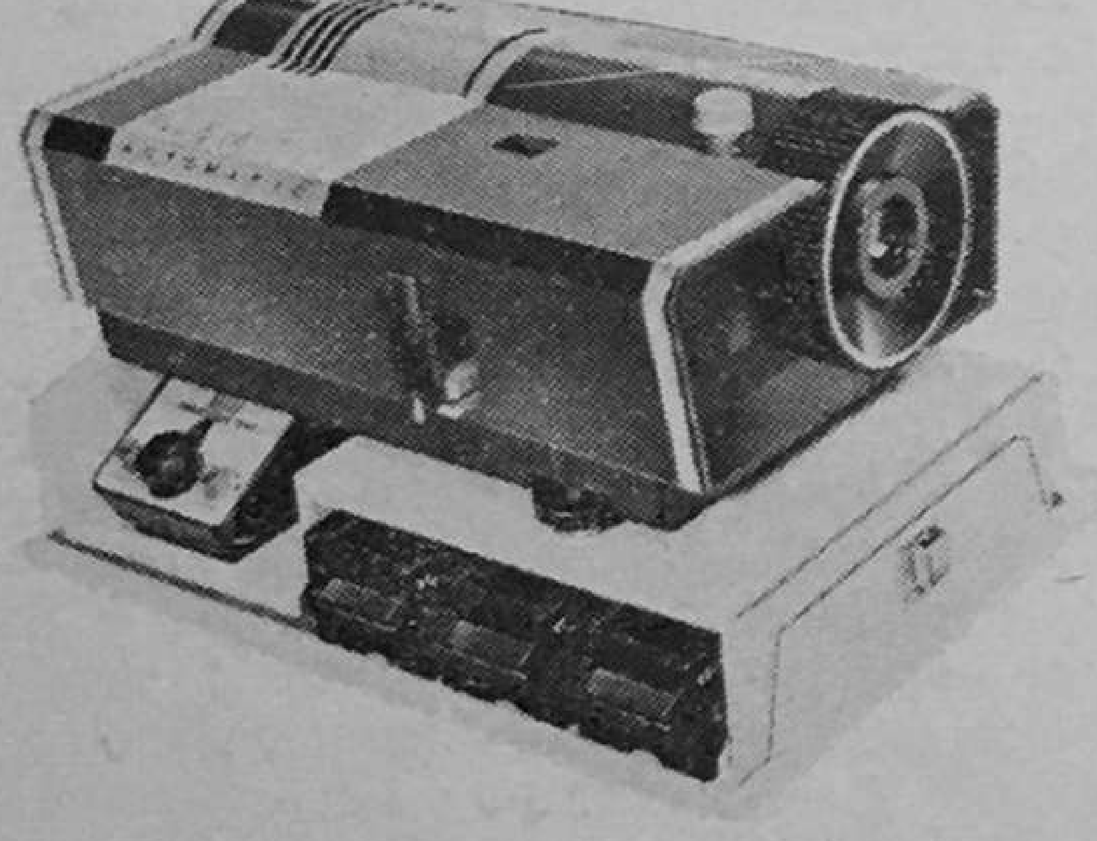
ARGUS 500 WATT ELECTROMATIC SLIDE PROJECTOR. All new in design with completely automatic electromatic controls. Self-operating Timer automatically controls projector for 36-slide magazine. Finger-tip manual control and 15 ft. remote control. All slides are pre-popped to eliminate annoying refocusing. Full 40″ picture at only 9 ft. Two-tone Vinyl-covered projector is built-in to its own all-metal case. **$99.95. 500 WATT AUTOMATIC SLIDE PROJECTOR,** similar to above, but without timer and remote control feature, **$74.95**

BELL & HOWELL EXPLORER AUTOMATIC SLIDE PROJECTORS: show up to 40 slides with fingertip controls, single forward-reverse lever, slide counter window, automatic blackout shutter, 4″ f/3.5 lens. Blower cooled. Handle is front support. Vinyl coated steel construction, factory lubricated. **MODEL 742, $89.95. MODEL 744** as above plus Point-A-Ray remote control, **$109.95. MODEL 754** has all above features plus built-in automatic timer to change slides at any pre-set interval from 7 to 60 sec. Automatic tray advance, **$149.95. MODEL 754Y,** same as 754 but with f/3.5 Filmovara zoom lens, **$179.95**

B&H ROBOMATIC PROJECTOR. Fingertip and automatic operation. Takes Selectray with up to 30 slides. Simple loading. Remote control cord and extensions available. Robomatic Timer can be set to change slides completely automatically at intervals from 5 seconds to 1 minute. Run full half-hour show without touching a slide or the projector. f/3.5 lens, knob focusing, vertical and lateral tilt adjustments with Robomatic Timer and 750-watt lamp. All die-cast aluminum with convenient snap-on carrying case. **$149.95**

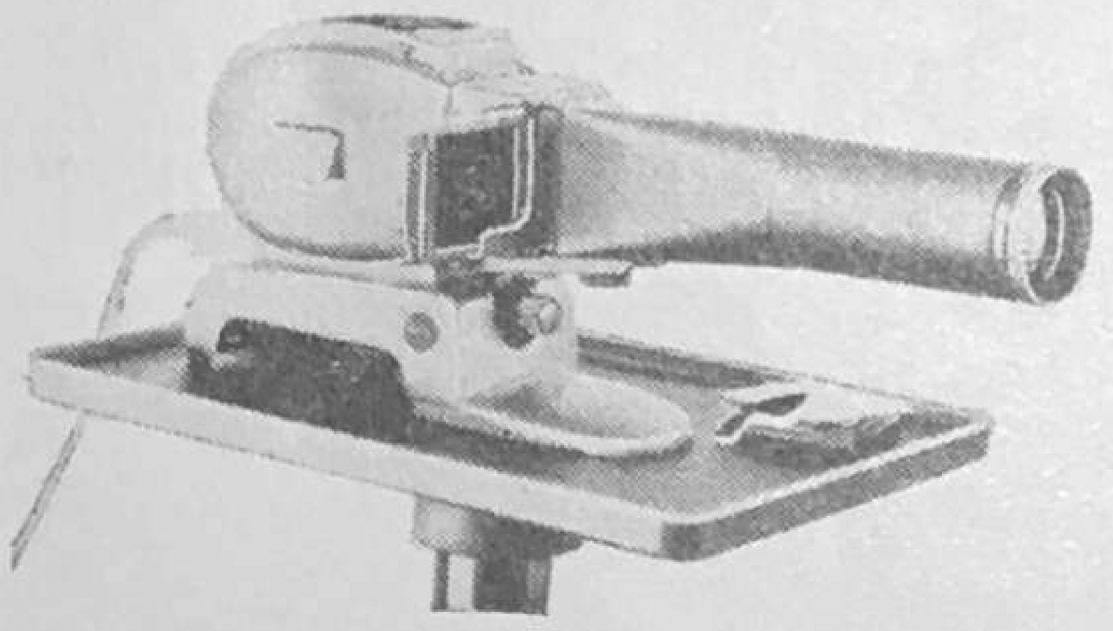
BELL & HOWELL ROBOMATIC TIMER. Automatic cycling control for B&H Robomatic projector or Electric Changer. Slides change themselves at any preset interval you select. Run full half-hour shows without touching slide or projector. Also has built-in pushbutton remote control. 105-125V, AC, **$22.95**

REALIST 990 AUTOMATIC PROJECTOR 3160 with "set-it-and-forget-it" ease of operation. Set the timer for any interval from 5-60 seconds. Realist 990 advances, shows and replaces slides all by itself. Exclusive remote control allows you to alter timing, to advance and hold slides as you desire—from as far as 12 ft. away. Offers a new, 500-watt proximity mirror-type lamp which gives you up to 25% more picture brilliance than comparable projectors. Blower cooling system preheats slides to end annoying "popping" out of focus and maintains cool operation at all times. A high-quality, 3-element, f/3.5 4-in. lens gives you crystal-clarity and sharpness, even when your slides are projected at life size or larger. Easy-to-use Realomatic trays need no special inserts. Realist's 45-slide trays are the largest you'll find anywhere, give you half again as much "show time" per tray. With timer and one 45-slide tray, **$79.95**

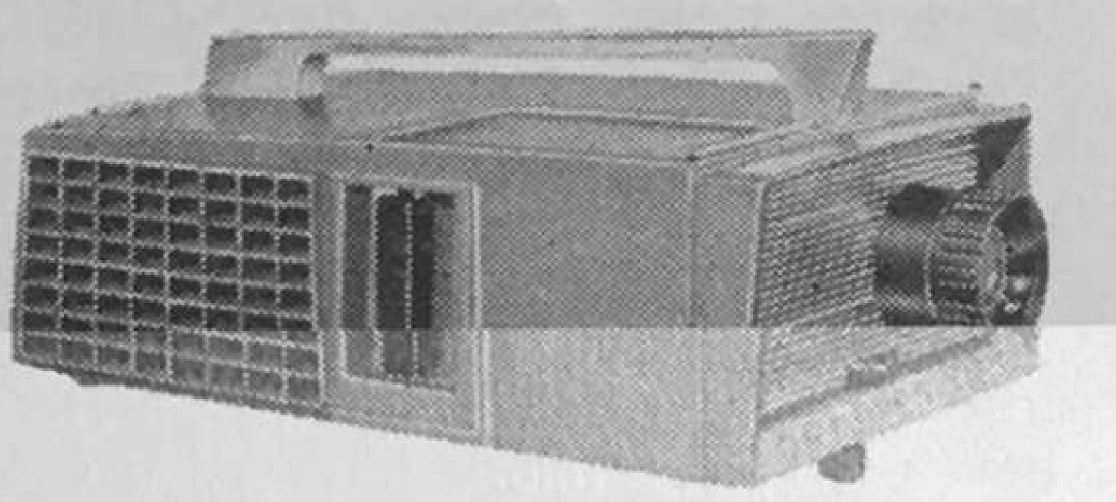


2x2″ and 2¼x2¼″ combination projectors

LINHOF 85x85mm 500W SLIDE PROJECTOR is designed to accept transparencies up to 2¼x2¾″. Oversize condenser system and 200mm f/4 Leitz Dimar lens for brilliant screen images. Built in blower system. AC only. **$325;** Carrying Case **$39.50**



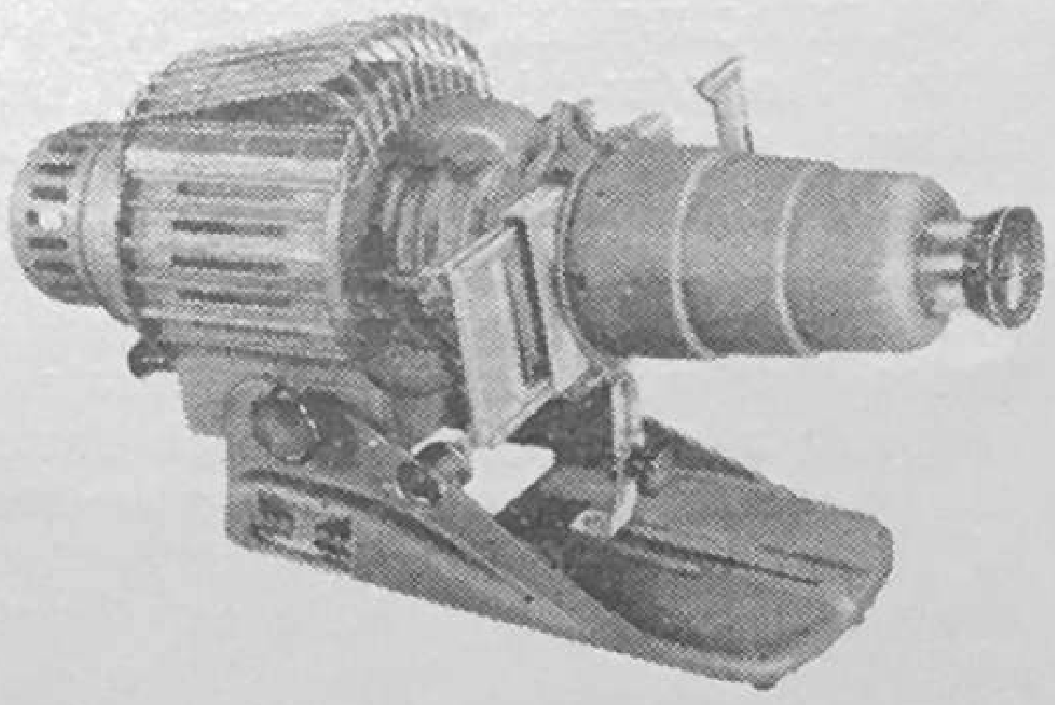
REALIST 620 DELUXE PROJECTOR 3151, 2¼x2¼ color slide projector is newly improved; offers the same unbeatable combination of beauty, performance and economy—and still more for the camera owner who wants crisp, life-size projection with quiet, cool, efficient performance. 40% increase in picture brilliance—contributed by the new, 300-watt, proximity mirror-type lamp—and quieter, smoother operation make for its increased popularity. To add to its versatility, the new Realist 620 Deluxe accepts adapters for all 2x2 slides. Other features include the powerful, zephyr-quiet blower, which keeps slides and projector at body temperature even through hours of steady use . . . three element, 5-in. lens for sparkling projection of your pictures . . . handy storage space for 40 slides . . . screen "blackout" between slides . . . sturdy, all-metal construction. **$44.50**



3¼″x4″ projectors

BESELER SLIDE KING accepts 2x2, 2¾x2¾ and 3¼x4″ slides for auditorium and theatre projection. Built-in mechanical pointer permits operator to focus an arrow on any part of screen. Spring loaded, elevating legs. **LAMP:** 750-watt, blower-cooled, 115-120 volts AC or AC-DC. 15. cord. Fits any projection situation. Comes with choice of many lenses ranging in length from 6½″ to 26″ and metal carrying case, **$256** to **$463**

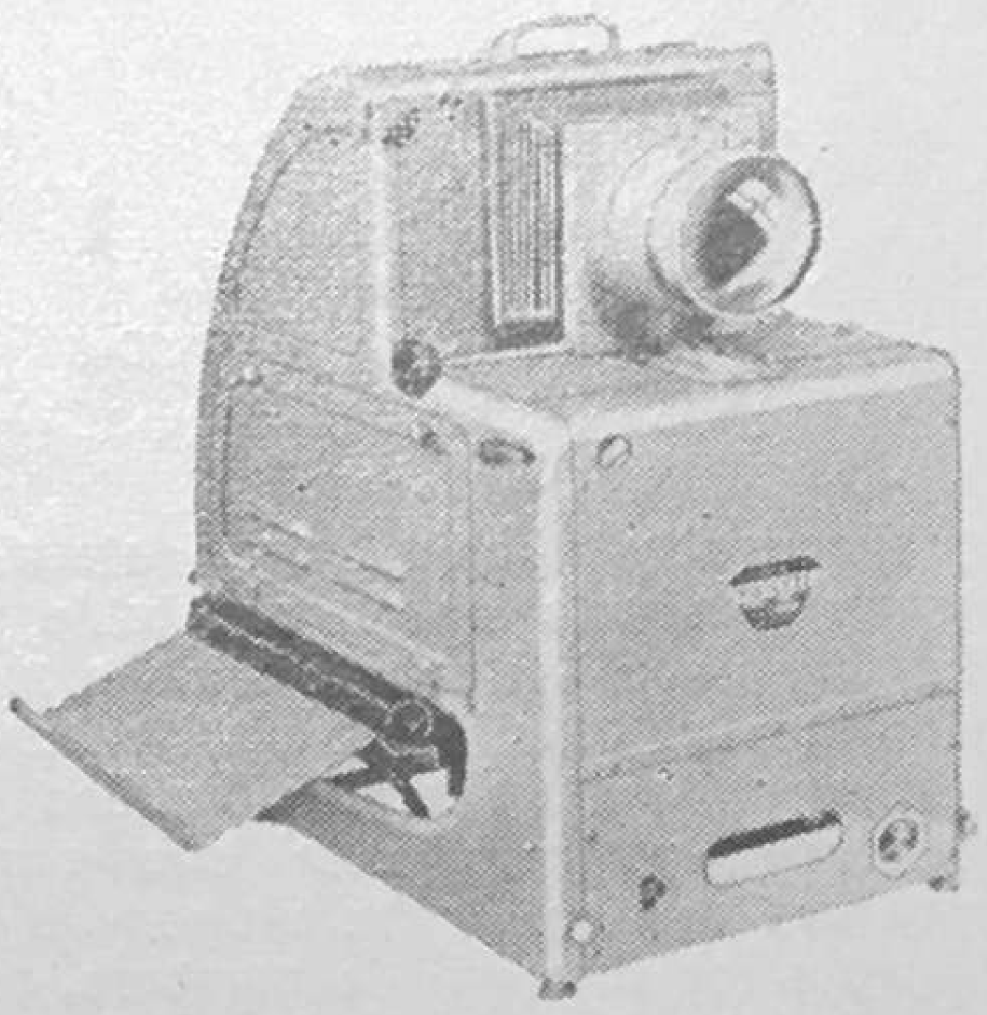
HEILAND MASTER PROJECTOR, designed to give long, dependable service under the rugged conditions imposed by industrial and professional use, is a 1000-watt machine. Incorporating the latest type blower cooling system which assures lower slide temperatures over extended projection periods, it takes all 3¼x4″ lantern slides or Type 46L Polaroid Transparency Film in Polaroid Type 632 slide binders. The projector is furnished with a 3¼x4″ slide carrier, including slide adapters for 2¼x2¼″ transparencies in Heiland Reflex Binders and similar types, and adapters for all 2x2″ slides. With 6½″ coated anastigmat lens and appropriate nosepiece; less lamp and case, **$161.85.** Carrying case, brown tweed luggage type, **$24.95.** 500-watt lamp, **$4.90;** 750-watt lamp, **$4.95;** 1000-watt lamp, **$6.15.** Slide adapters, 2½x2½ or 3¼x3¼, per pair, **$3.95.** Optional lenses are all coated anastigmats, supplied mounted, with appropriate nosepiece: 5″, f/4, **$42.50;** 9″, f/4, **$47.50;** 12″, f/4, **$47.50;** 14″, f/4.5, **$124.50;** 16″ f/5.4, **$124.50;** 18″ f/6, **$124.50.** Blower adapters, provides separate blower and an additional condenser for highest quality illumination of all 2x2″ slides. With two-way slide carrier, less lens and nosepiece, **$49.50.** Coated anastigmatic lenses, with appropriate nosepieces: 5″, f3.5, **$28.25;** 7″, f/3.5, **$32.25.**



Filmatic Head Attachment, used with blower adapter, takes single or double frame horizontal or vertical filmstrips (35mm). Supplied with heat filter, it has a capacity of 350 single frames. Less lens, **$44.50.** Coated anastigmatic lenses, with nosepiece when required; f/3.5, 5″, **$24;** 7″ **$28**

opaque and overhead projectors

BESELER VU-LYTE 3000 SERIES projects opaque materials up to 10″ x 10″. Includes built-in optical pointer and vacumatic copy hold-down as standard features. LAMP: 1000 watt, blower cooled. 115 or 230 volt AC or AC/DC. Weight: 33 lbs. Sturdy Aluminum Construction. Feed-O-Matic for easy copy insertion available as necessary. Projectors available in a variety of lenses from 18. Focus to 20″ focus. Prices start at **$250**



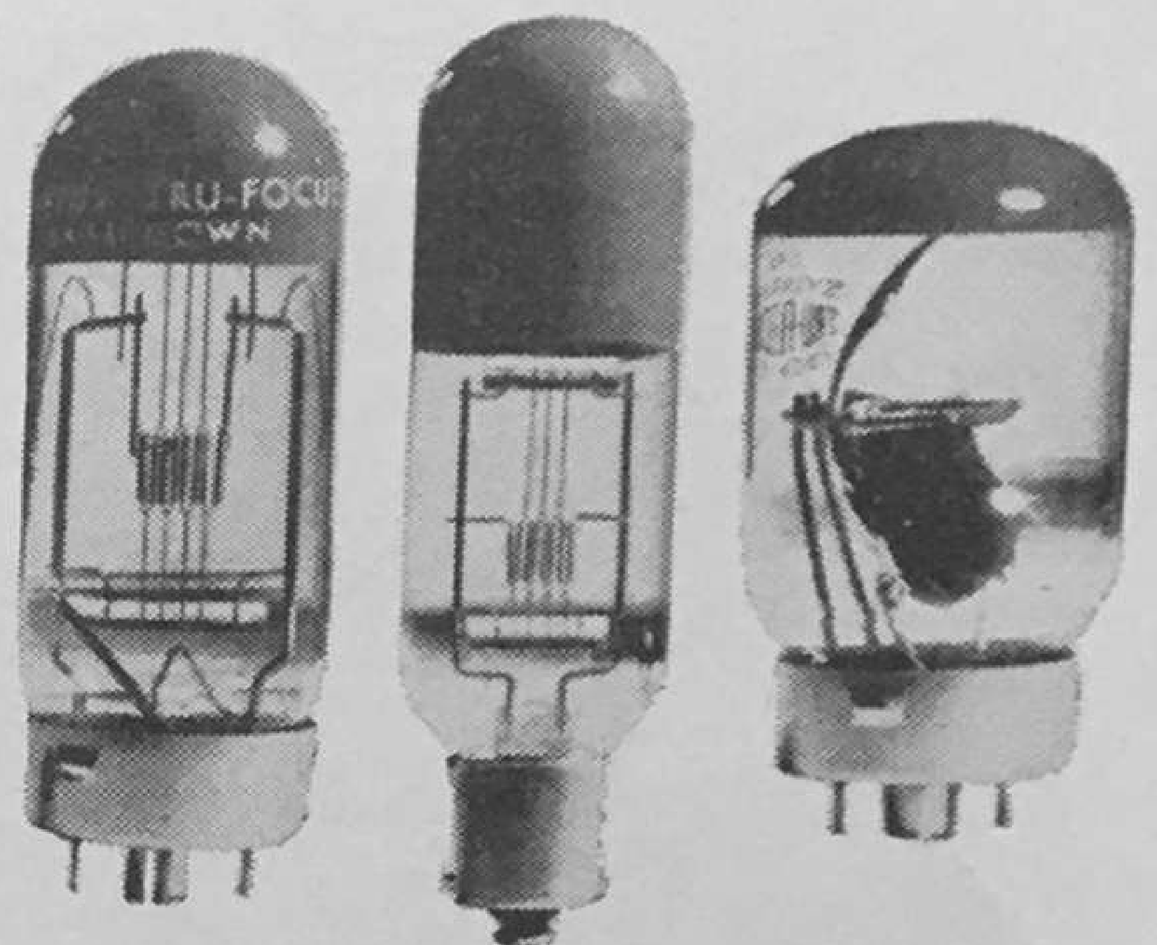
BESELER VU-GRAPH 55 projects transparencies up to 5x5″, overhead design. **LAMP:** 300-watt, blower-cooled, 110-120 volt AC. 3″ diameter optical system. Screen image elevation is 15°. Friction drive focusing. With Bestar lens, **$155.** With Actar lens, **$215.** Carrying case, **$16**

sound-filmstrip projector

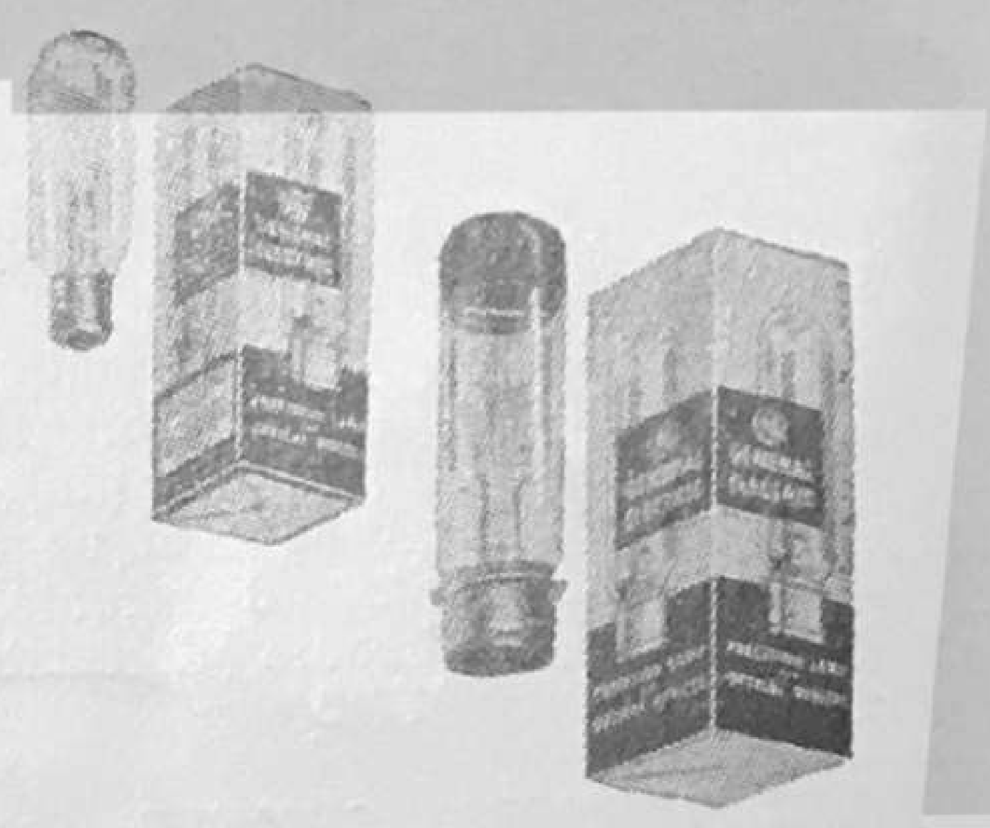
GRAFLEX ILLUSTRAVOX SOUND-FILMSTRIP PROJECTORS are completely self-contained in one case; produce sharp brilliant pictures. Turntable accepts 7″, 10″, 12″ and 16″ records—has 6 tube amplifier. Jack for external speaker. Turntable speeds 33-1/3 and 78 R.P.M. 110-120 volts, 60 cycle AC operation. Available in 4 models: **Automatic 300-A** 300 watt Projector, blower cooled, automatic operation from inaudible signal on record or push button on cable. **$219.50. Illustravox Remote Electric 300-RE, 300** watt blower cooled projector, push button electric film advance, **$189. 50. Illustravox Remote Manual 300-RM,** 300 watt blower cooled manual operation with hand operated Remote Pull Cable **$179.50. Illustravox Manual 150-M,** 150 Watt projector manual operation with hand operated Remote Pull Cable, **$169**

projection lamps

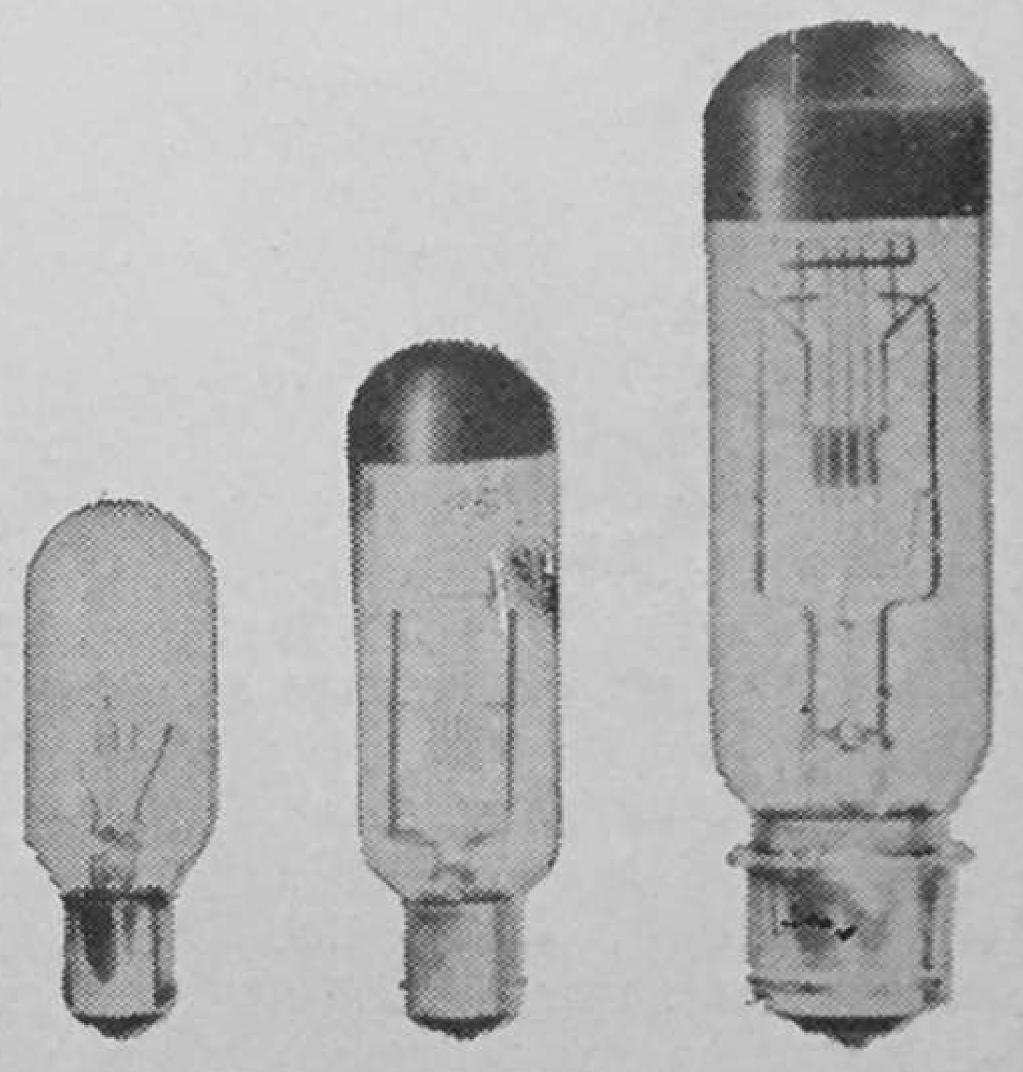
SYLVANIA BLUE TOP PROJECTION LAMPS are available in large range of models for efficient light-output from slide or movie projectors. See chart for prices.



GE PROJECTION LAMPS for slides and movies are supplied in a wide choice of specifications for every type of projector. See chart for prices.



WESTINGHOUSE "BLUE TOP" PROJECTION LAMPS are available for all popular makes of movie and slide projectors. Exclusive "Floating Bridge" and concentrated filament construction assure maintenance of brightness throughout life. See chart for prices.



See chart
Page 32
for complete
projection
lamp data
and prices

PROJECTION ACCESSORIES

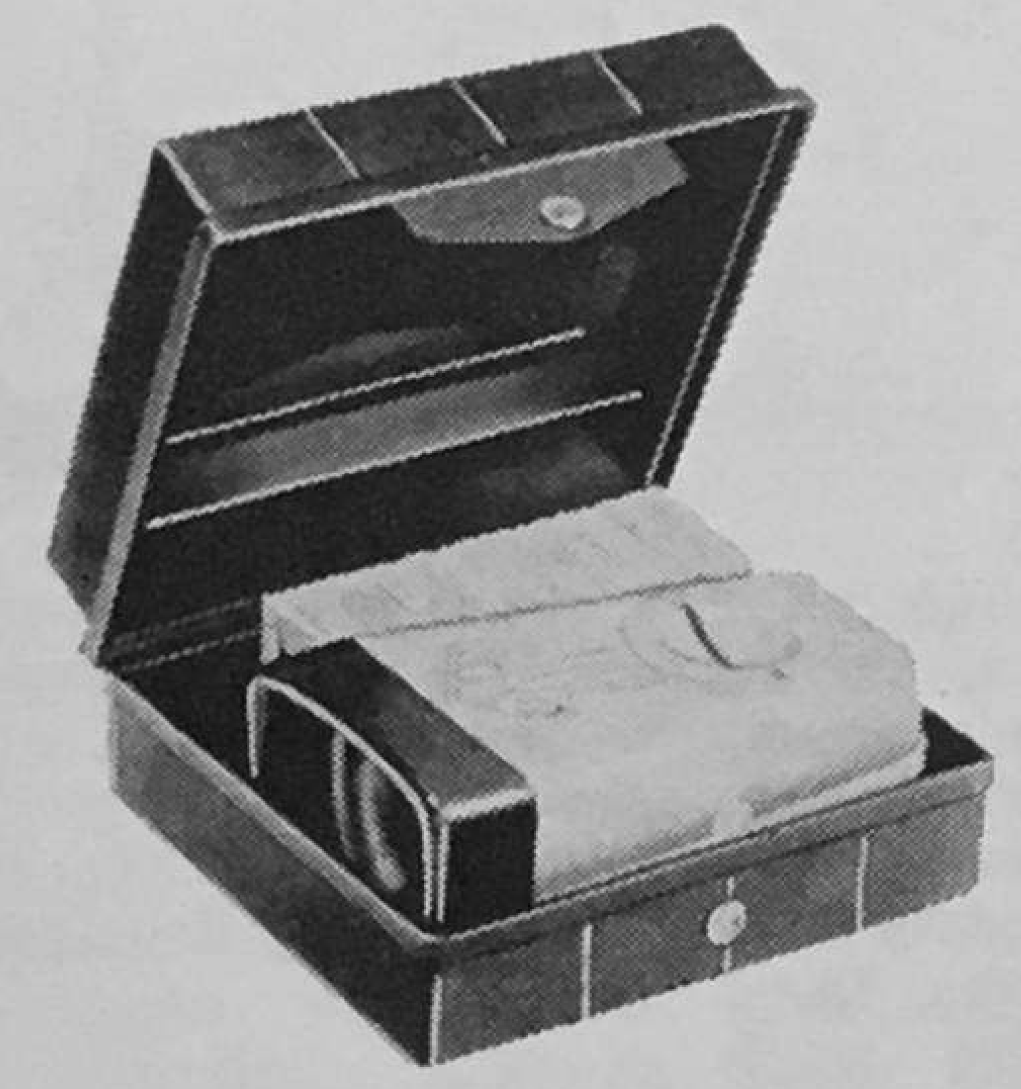
2x2″ slide viewers, hand and combination

AIREQUIPT 12X SLIDE VIEWER . . . Biggest image of any viewer . . . Provides twelve times area magnification for 35mm, bantam and super-slides. Hold it in your hand or use the convenient fold-away table stand for table viewing. Two-tone grey styling; convenient slide lock permits light to remain "on" when wanted. Operates on two "C" batteries. Airequipt 12X Slide Viewer less batteries, **$7.95**

AIREQUIPT ULTRAMATIC SLIDE VIEWER . . . (Model W 200) . . . Magazine-load viewer with individual metal frames for each of 12 slides which can be shown in sequence. Shows 12 slides automatically, changes slides with push-pull fingertip action. The system of Ultramatic indexed magazines, each containing 12 metal slide frames, provides permanent sequence and storage for 35mm, bantam and super-slides. 7X area magnification. Uses 2 "C" batteries. With 1 magazine, less batteries, **$14.95.** Additional magazines with frames, ea. **75¢**

KODAK ILLUMINATED POCKET VIEWER—For viewing 2x2 color slides and filmstrips. 4-times magnification. Illumination by 2 penlight batteries (not supplied) or normal light if viewer back is removed. Folds for easy carrying. In display carton of six viewers, two each in red and black, two-tone blue, two-tone tan. Display package of six viewers—per viewer, **$5.95**

OPTA-VUE "35" SLIDE VIEWER is a handsomely designed slide viewer for 35mm, Bantam, 127, and super slides, with exclusive Optacor DuaLens System that gives 9x magnification. Provides great brilliance, clarity and light transmission for deep-dimensional and wide-angle viewing. Unit includes intermittent and continuous light switch and built-on viewer stand for table use.



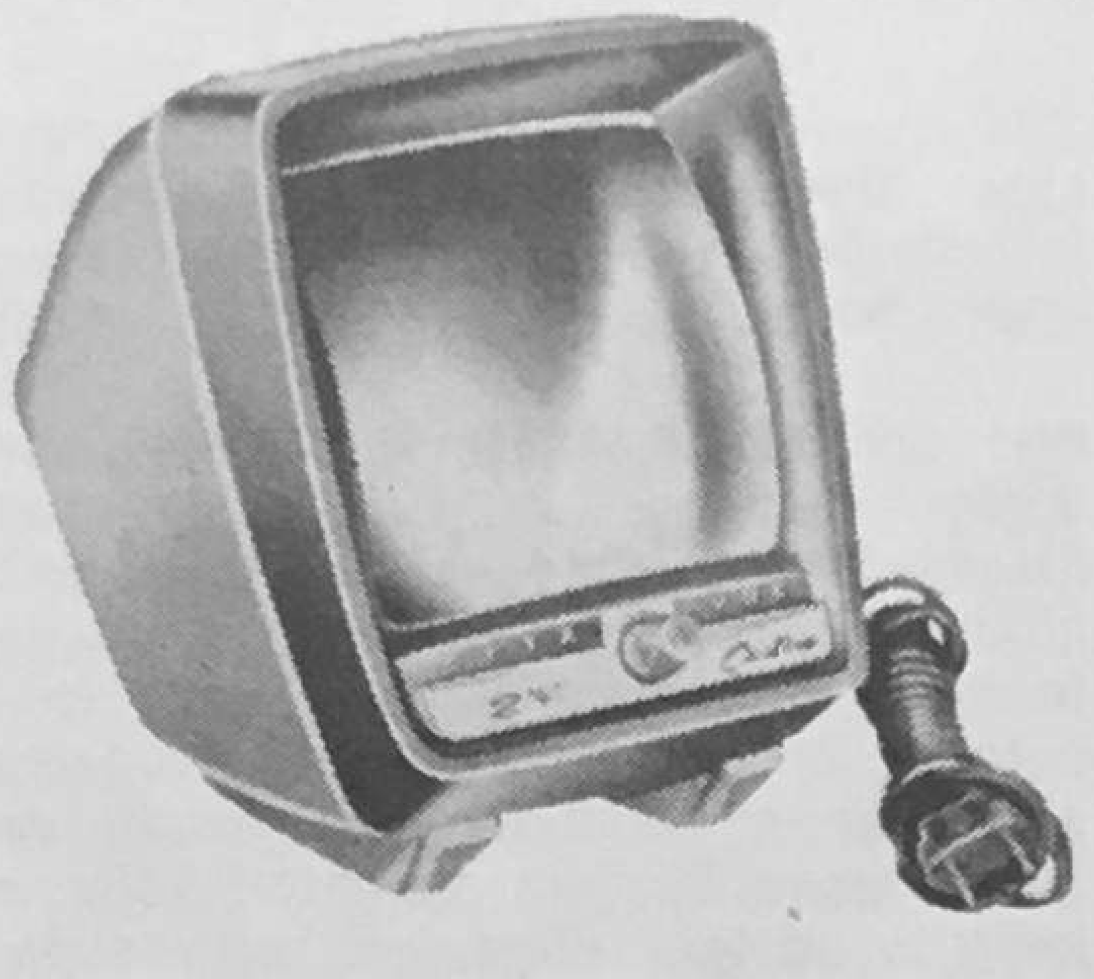
Comes complete with long-life batteries. Case holds viewer, two spare batteries. and room for 100 slides. **$9.95.** Viewer alone, **$7.95**

SAWYER'S PANA-VUE I SLIDE VIEWER Lighted, versatile, doubles as hand & table-top viewer. On a table "it stands alone", for individual or group viewing. Brilliant light may be turned on at will by slight pressure, or locked **"ON"** for constant illumination. Full coverage of all 2x2 slides including Super Slides, with 4x area magnification. With 2 "C" batt. **$6.95. SAWYER'S PANA-VUE IV SLIDE VIEWER** similar to above for 35mm slides **$5.95. BI-LENS SLIDE VIEWER**—lighted binocular viewer features convenient, natural viewing with both eyes. "Feathertouch" bar controls interior light. With 2 "C" batteries. **$6.95**

SAWYER'S PANA-VUE II SLIDE VIEWER Lighted 2x2 handsome viewer weighs only 5½ oz. Fine optical lens gives full coverage of Bantam, 35mm and Super Slides, in any type of mount. Light switch provides even diffused light; exclusive spring holds slide in place. With 2 penlite batteries, **$2.95. PANA-VUE III** 2x2 slide viewer offers "solid viewer" advantages plus compactness. Folds to streamlined pocket-size, only 1⅛″ thick, **$1.95 MONO-VUE** 2x2 slide viewer, smart "miniature" hand viewer top quality, **$1**

2¼″x2¼″ viewers

OPTA-VUE 2¼ CUSTOM VIEWER provides brilliant, deep-dimensional projection and magnification of 2¼x2¼ slides, as well as 35mm and super slides. Illuminated by 110 volts AC it renders a 20¼ sq. in. big-screen image through exclusive Optacor DuaLens System that yields four-diameter magnification. Embodies a twin-tilt feature that adapts it to the viewing requirements of the audience by permitting adjustment for individual viewing or large group showing. Brilliance-control rheostat with on-off switch compensates for over- or under-exposure. Evenly-distributed illumination. Exclusive Kool-vent design prevents overheating. U.L. approved **$19.95**



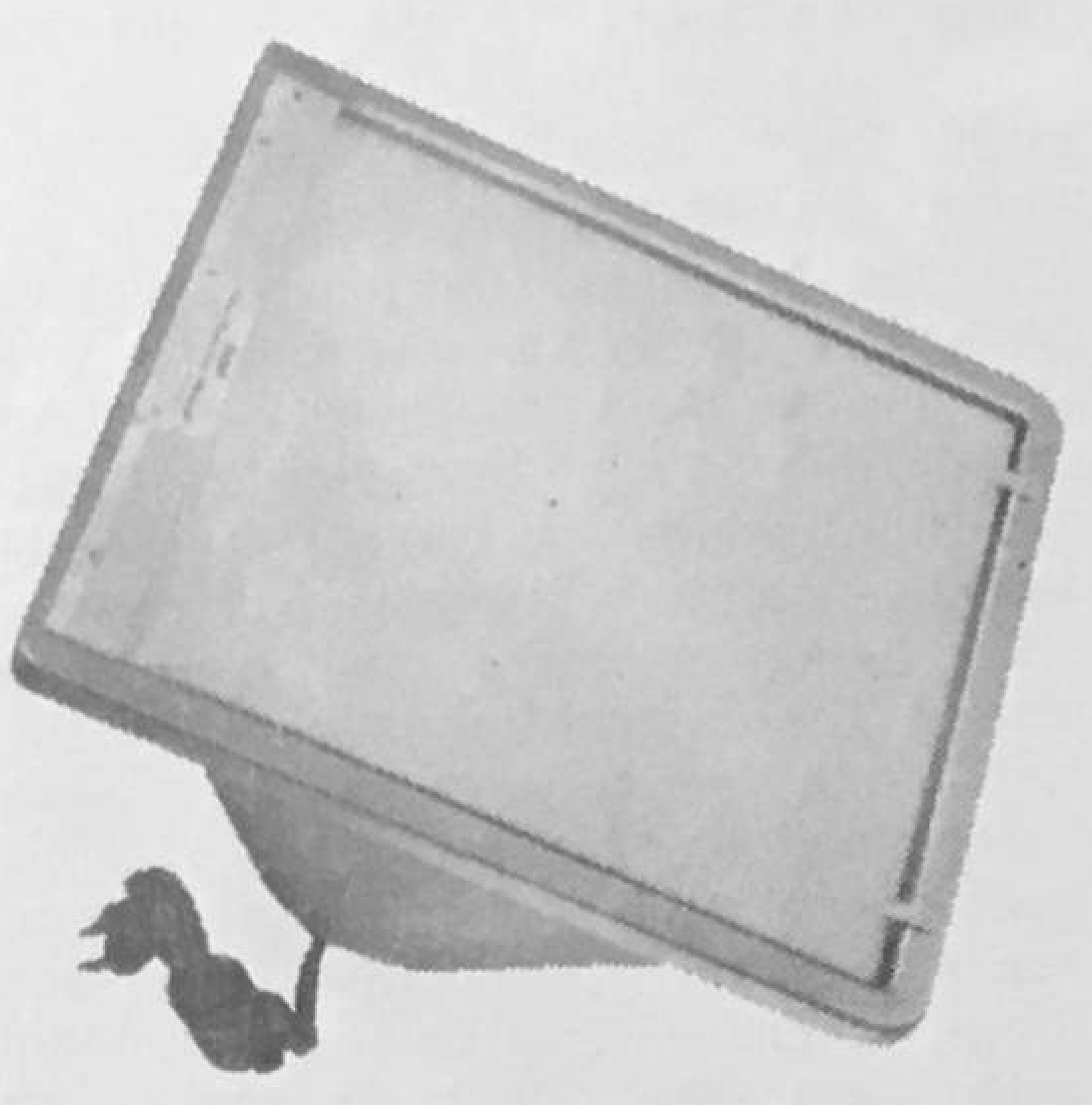
BRUMBERGER TABLE VIEWER for 2x2″ and 2¾x2¾″ slides, has hidden adapter which centers all slides automatically. Transparencies are brilliantly illuminated. Enlarged image is viewed through 3″ ground and polished lens. All-steel, spot-welded, platinum gray enamel finish. With bulb, on/off switch, 6 ft. cord **$6.50**

transparency illuminators

ARKAY TRANSPARENCY ILLUMINATOR for viewing 8x10 and other size color transparencies and negatives. This fluorescent unit is designed to give even illumination over entire viewing area. Not just a dark room viewer, but can be used for sales meetings, desk use, counter display, etc. Decorated in grey and black textured finish with chrome frame, **$29.95**

CORECO CORE-VUE COMBINATION SLIDE VIEWER AND PROJECTOR can be used by the medical photographer both as a back-lighted desk viewer or as a projector for lecturing purposes. It accepts a multiple slide holder that contains 6 individual slides side-by-side for rapid insertion. This permits quick review and backtracking in studying individual case histories. Double lens system. Motor cooling fan. Handy screen built into case cover. Complete with 24 multiple slide holders and slide file cabinet. **$119.** Additional filing cabinet with 24 multiple slide holders, **$14.95**

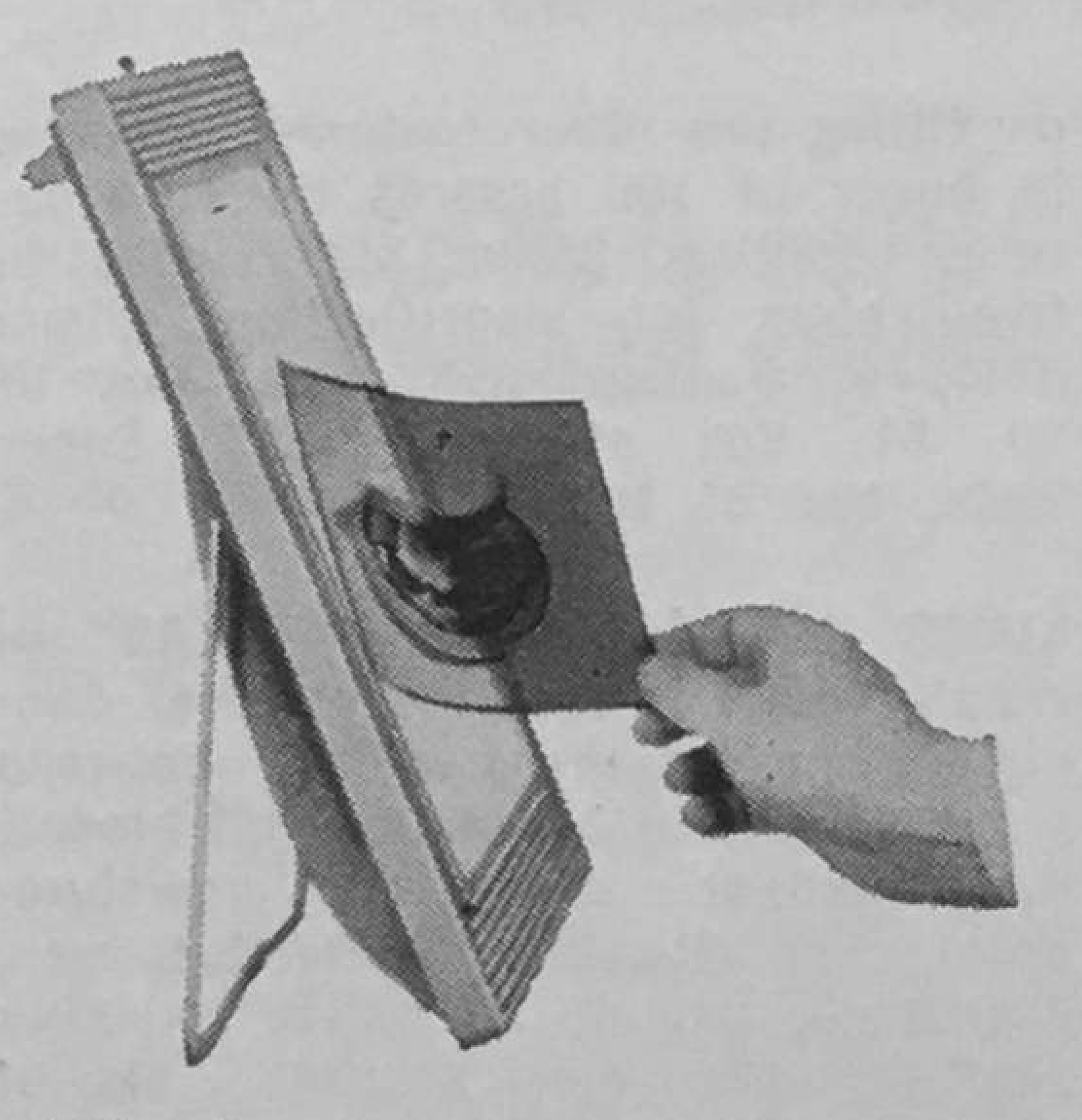
KODAK DELUXE TRANSPARENCY ILLUMINATOR MODEL 2 provides the proper viewing conditions for judging color transparencies. Produces light that approximates the ideal spectral quality for viewing transparencies, especially suitable for professional photography, graphic arts and advertising, by means of newly developed blue glass filter behind translucent white viewing surface. Accepts transparencies ranging from miniature to large sheet size on 10x10″ viewing area. Illumination by 75-watt household lamp, **$33**



KODAK ILLUMINATOR MODEL 1A used for viewing all size color transparencies up to and including 8x10″. Made of deep drawn, high impact Styron Plastic sheet with white translucent Plexiglass and a special blue glass filter. Designed to accommodate a standard 60-watt tungsten lamp (not supplied). Six-foot cord and plug. Used with 110-125 volt AC or DC, **$17.50**

KODAK TRANSPARENCY VIEWING MASK attaches to front of Kodak Illuminator, Model1A, and DeLuxe Illuminator to hold transparency and eliminate stray light. Available for 2¼x2¼, 4x5, 5x7 and 8x10 transparencies, **$1.00**

IDEALITE TRANSPARENCY ILLUMINATOR Model #010, is only 2″ thick, has a 10x 10″ luminous surface that is evenly lighted and never heats up. Uses 8-watt fluorescent as light source, combination of semi-parabolic and flat reflecting surfaces. Plexiglas diffuser is illuminated by balanced combination of direct and reflected light to eliminate hot spots and fall-off. Can be adjusted in seconds to any of 13 operating positions by simple easel change. Can be hung on wall or adapted to become easel frame, suspended by hook, used as drafting table, retouching-opaquing-spotting table, graphic arts accessory. Portable, weighs less than 3 lbs. **$24.95**



ROLITE VIEWER can be used for viewing transparencies as a horizontal table or as a vertical display unit for a wide variety of purposes. Its exceptionally large viewing area, 25″ x 34″, can accommodate many transparencies of various sizes simultaneously. Extremely cool and even light distribution uses only one 30 watt fluorescent tube. Ceramic glass viewing area. Sturdy aluminum frame. Rolite Viewer, **$69.95.** #206 Legs—6″, **$3.50** pair. #228 Legs—28″, **$8.95** set of 4. #131 Replacement Glass, **$24.75**

VUETTE ILLUMINATOR is constructed of light metal set off with shadow box type wood frame. All sizes from 4x5 to 20x24; up to 8x10 diffuser is blue opal for color correction; larger sizes have white opal for accentuated color brightness. MF model 8x10 uses special daylight bulb for high color correction for laboratory and sales use. Ledge permits resting transparencies on edge for rapid viewing, narrow frame concentrates attention on viewing area. **$10.95.** Other models: 4x5, **$4.95;** 5x7, **$6.95;** 8x10, **$9.95;** 11x14, **$14.95;** 16x20, **$34.95;** 20x24, **$49.95**

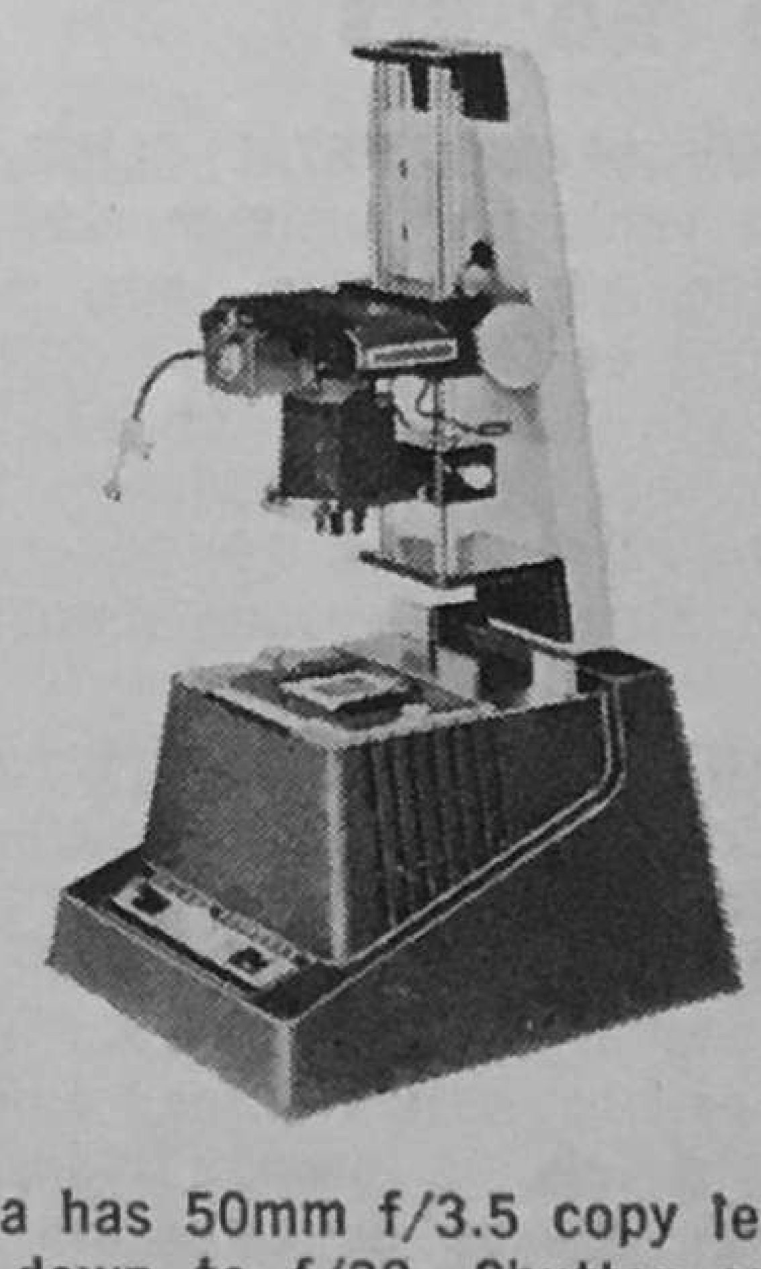
slide changers

AIREQUIPT ELECTRO-CHANGER. Completely automatic for Airequipt magazines. Operates by itself in range of 6 time settings, from Rapid to 30 sec. Operates manually by push-button. Remote control. Fits most projectors accepting Model P Airequipt Changers. Use existing adapters. Changer with one mag., **$35.95;** 10 ft. Pneumatic Remote Control Cord, **$3.95;** 10 ft. Elec. Remote Control Cord, **$9.95. AIREQUIPT AUTOMATIC SLIDE CHANGER.** Converts your projector to an auto. Fits most 2x2 projectors. With storage mag. for 36 slides and adapter, **$14.95.** Additional magazines, ea., **$2.25**

BELL & HOWELL SELECTRON-SEMIMATIC SLIDE CHANGER selects the slide to be shown, inserts it for showing, removes it from projection position, returns slide to Selectray for indexed storage, moves Selectray into position to project next slide . . . all with the movement of a sliding bar. Handles all types of 2x2″ mounted slides . . . cardboard, glass, metal or plastic. Projects in forward or reverse sequence, selects individual slides in any desired order. **$12.50;** Selectray with dustproof cover, numbered labels, tray engraved from 1 to 30, for thirty 2x2″ slides in all type mounts, **$1.50**

slide duplicators

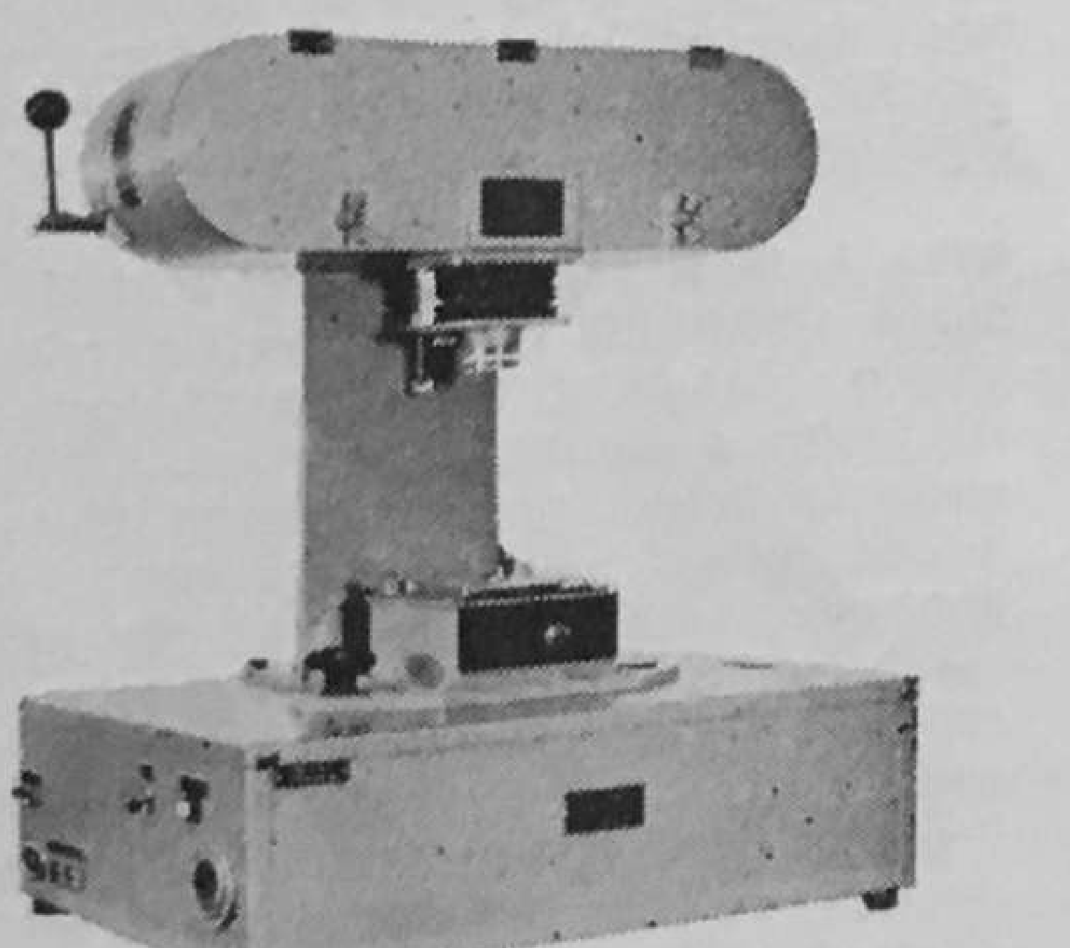
HEILAND REPRONAR is a transparency duplicator that will copy, reduce or enlarge color or black and white transparencies. Repronar is a complete self-contained unit that consists of a specially designed 35mm single-lens reflex camera, copy stand and built-in Strobonar electronic flash light source.



Camera has 50mm f/3.5 copy lens that stops down to f/32. Shutter speed is fixed at 1/50 sec. Exposure is controlled by opening and closing aperture. Camera rides on right dual-track carriage; extension bellows permits ½x reduction or up to 4x enlargement.

continued on next page

This allows several different pictures to be made from one original—or achieve a telephoto effect—or get close-up distortion free portraits from portions of slides. The Repronar will also correct for exposure errors. One or two stops underexposure is readily corrected by opening up the Repronar lens. Overexposures, usually being washed out, are difficult to correct completely but can usually be improved. The color balance of transparencies can readily be changed by using color correction filters, two of which are supplied with the Repronar. (81A & UV-17). Filmstrips can easily be made or duplicated using the filmstrip slide holder or duplicating assembly available as an optional accessory, **$14.95.** Excellent prints are readily obtained by using black and white or color negative film in the camera. The Repronar will reduce 2¼x2¼" transparencies to 35mm. It will enlarge single-frame 35mm, single stereo frame or 16mm frame to 35mm. Slide holders are supplied with the Repronar for 2" and 2¼" slides. Also included are 2 slide holder magnets, lens cap, cable release and dust cover. **$350**



EMBY-HOMRICH INTER-NEGATIVE PRINTER makes inter-negatives or super-slide duplicates. The printer loads with 46mm (127 film size) 100' or 200' rolls in order to make possible faster printing from larger negatives, sharper prints and enlargements. Printer controls are simple and include preset focus. One control sets for 1 to 1, enlarging and reducing automatically adjusted film advance, mirror-shutter reflexes image for visual check. The unit takes all popular sizes, 2¼ X 3¼", 2¼ square, super-slides, 35mm slides, bantam slides, stereo slides. Fast and easy to operate, the unit makes it possible to avoid expensive installation of reversal printing line. Prices on request.

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slide mounts

DAVIDSON STAR-D METAL SLIDE BINDERS are made of aluminum with glass protection. 35mm size, box of 25, **$1.95;** box of 50, **$3.65.** 2¼x2¼ size, box of 25, **$3.25;** box of 50, **$6.15.** 127 size, box of 25, **$2.35;** box of 50, **$4.10.** In quantities of 10,000 or more, any size binder, prices on request.

EMDE BINDER FOR 2x2" KODAK READY-MOUNT is a new aluminum binder with ultra-thin cover glass for Eastman Kodak 2x2" Readymounts. Its operation is fast and effortless. The 2x2" Readymount, just as it is returned from the processing lab, is merely placed between two pieces of ultra-thin micro glass, slipped into the one-piece frame, and end of frame folded over—just as simple as that. Films are permanently protected against finger prints, dust and other damage from handling. Packaged 100 to a box, with 200 pieces of clear white micro glass, **$8**

EMDE 35MM D.F. ALUMINUM FOIL MASKS AND ULTRA-THIN GLASS FOR AIREQUIPT FRAMES. 2x2" aluminum foil mask and ultra-thin glass covers provide simple and easy method of protecting films in Airequipt magazine frames. Simple instructions printed on top of each box—merely insert film under nibs of mask, and slip glass-mask sandwich into the Airequipt frame. Package contains 100 double-fold aluminum foil masks, and 200 micro glass covers. No. 235, per box, **$7**

EMDE 2x2" ALUMINUM FRAME WITH 35mm D.F. ALUMINUM FOIL MASK is designed to meet the most exacting demands of color film users who desire ease of assembly, as much protection as possible against both Newton Rings and film buckling, as well as protection against moisture, fungus, etc. This slide being all metal and glass can attract the utmost minimum of moisture, and never enough to cause "steaming" or "fogging" of slide from heat of projector. Moisture plus natural curling of film is the cause of Newton Rings, whenever film comes in contact with glass. The slight air space this mask provides between film and glass (5/1000ths inch on each side) gives maximum protection possible against Newton Rings while at the same time giving maximum protection against film buckling. This tiny distance is not sufficient to let film "pop out of focus"—an annoying trouble when projecting. No. 35-D Pkg, of 20 **$2;** No. 135-D Pkg. of 100. **$8**

ESCO REFLEX TYPE-ON MOUNTS. Fibreboard-Glass Mount for 120 and 620 Transparencies. Glass covers protect film and insure flatness. Fibre shock absorber prevents breakage. Separate gummed mask permits type-on titling. Jiffy Jig included for fast accurate mounting. Box of 12, **$1.35;** Box 50, **$4.95**

Esco
35MM
TYPE-ON MOUNTS

ESCO 2"x2" FIBREBOARD GLASS TYPE-ON MOUNTS. Fit all types of automatic and manual slide changers, prevent buckling, scratching and fingerprinting of transparencies. Lint-free shock absorbers, free-fit corners, type-on titling are other features. Jiffy Jig in boxes of 100 assures quick, accurate mounting. 35mm size comes in five colors for identification. 35mm (D.F.) or Bantam (828) size. Box of 20, **$1;** Box of 100, **$4.25.** Super Slide, box of 100, **$5.25**

KIMAC ONE-STEP SLIDE BINDERS are simple, quick-to-use, inexpensive. Simply insert transparencies between glass, then seal by folding foil binder. Heat-repellent, dust- and moisture-proof. For 2¼x2¼" (extended size, 2½x2½"), pkg of 10 **$1.15;** for 2¼x 2¼" (extended size, 2¾x2¾") pkg of 10 **$1.25.** For Stereo pairs, pkg of 25 **$2.75.** Economy package of 100 glass plates, 50 foil Redi-binds, unassembled, **$4.25** and **$5.** For 2½x3½", **$5**

KIMAC SLIP-ON SLIDE PROTECTORS are Eastman Kodapak acetate sleeves that protect transparencies from fingerprints, abrasions and scratches. Fit standard cardboard mounts. Minimize "popping." Sealed edges. Fit all viewers, projectors and slide changers. 100 to a box, reusable as file, 2x2", **$2.75;** 2¾x2¾", **$4.** 1000 2x2" (bulk), **$25;** 1000 2¾x2¾" (bulk), **$30.**

LINDIA MOUNTS make 2x2" slide-mounting simple and quick, insert transparency between thin optical glass. Press . . . mount is closed. All in a few seconds. Exact-dimension metal-mixed-with-plastic mount; strong; reusable. With Title-space. Heat-resistant gray. With glass; box of 20, **$2.55;** 100, **$11.95.** With Newton-ring free glass; box of 20, **$2.95;** 100, **$13.95**

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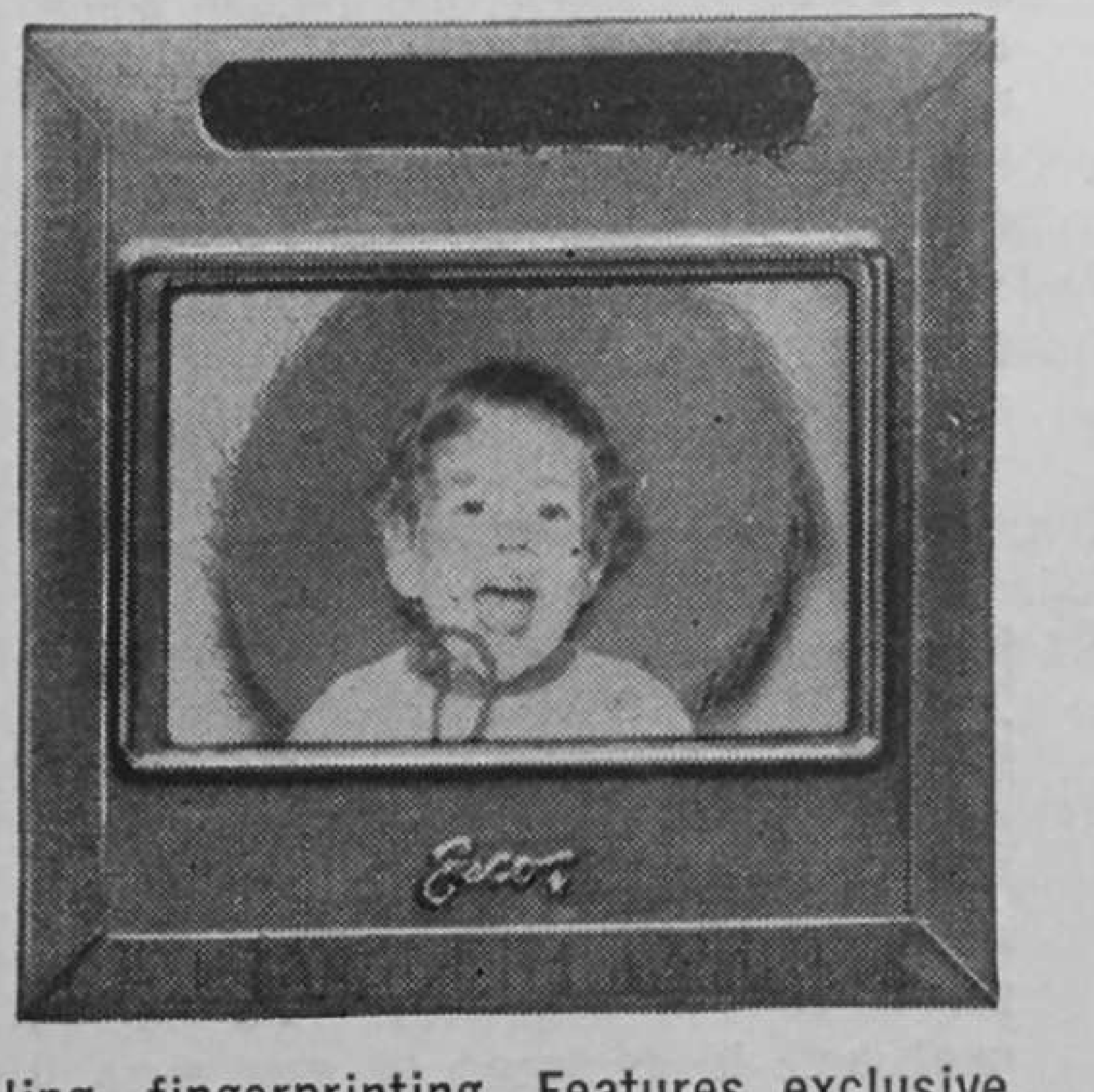
slide binding and mounting material

BRUMBERGER SLIDE BINDERS. With glass protectors. Rounded corners for easy fit, simple snap assembly. Panel for indentification. For 35mm slides, 2x2"; #1156, box 20, **$1.79;** #1157, box, 120, **$8.95.** For Bantam slides, 2x2": #1154, box, 20, **$1.79;** #1155, box, 120, **$8.95.** For 2¼" slides, 2¾x2¾"; #1158, box 12, **$1.89** #1159, box, 72, **$9.95.**

BURKE & JAMES RADIO MATS permit you to make titles simply and attractively or project slide comment on a screen by writing or typing on a mat. Consist of special carbon paper and transparent cellophane in white, green or amber with mat for masking. After message has been inscribed, mat is mounted between 2 pieces of cover glass hinged with tape and is ready for projection. No. 5815A, 100 slides (2x2") **$2.50.** 50 slides (3¼x4") **$1.50**

B&J DELUXE LANTERN SLIDE VISE for 35mm, Bantam, 2x2", 3¼x4" and Stereo Slides. Holds slide in perfect alignment and permits it to rotate freely for attaching binding tape. Tape-holding extension arm accommodates any type of binding tape, small or large, up to 7⅛" in diameter. Tape is held in perfect alignment with slide. Rugged construction. Accepts cover glass from 2x2" to 3¼x4", **$19.50**

EMDE SLIDE GLASS CLEANING KIT is excellent for cleaning all types and sizes of slides, stereo slides in particular. Kit contains 3-oz bottle of glass-cleaning concentrate, chamois glass polisher, grooved slide-glass holding block. Complete kit, **90¢**



ESCO ALUMINUM MAGICMOUNTS. 35mm Glass and Aluminum Slide Binders offering maximum protection for transparencies, preventing scratching, buckling, fingerprinting. Features exclusive built-in Shock Absorber, prevents glass breakage. Direct Write-on Titling, precision centering, long-range durability, reusable. Box of 20, **$1.98;** Box of 100, **$8.95**

ESCO SMOOTHCUT COVER GLASS. For taped mounting of transparencies, Automatic diamond cutting assures smoothness of edge and true size. Box of 100, 2x2", **$1.50,** $2\frac{7}{16}$x $2\frac{7}{16}$", **$2.40;** 2¾x2¾" (Reflex); **$3.15;** 4x1⅝" (Stereo), **$2.85;** 3¼x4" (Lantern Slide), **$4.15. ESCO GROUNDEDGE COVER GLASS,** the elite of slide glass. Features quality micro glass with ground edges. Box of 100, 2x2", **$1.90;** 4x1⅝" (Stereo), **$3.75;** 3¼x4" (Lantern Slide), **$6.15**

IDEAL LANTERN SLIDE MATS are available in all (26) standard sizes and shapes for lantern slides. All mats measure 3¼x4" outside. Made of superior opaque embossed paper of tough composition. Dead black finish on both sides. Accurately die-cut with clean, sharp edges. Pkg. of 25 mats, **50¢;** box of 100, **$1.85;** 1000 in bulk, **$15**

LINHOF 85x85MM SLIDE BINDING MATERIALS: 2¼x2¾" Slide Masks, 100 for **$6.60;** 85x85mm Slide Cover Glass, 100 for **$5.90;** 85x85mm anti-Newton Ring Cover Glass, 100 for **$21.60;** Slide Binding Strips for 85x85mm glass slides, 100 sets, **$1.65**

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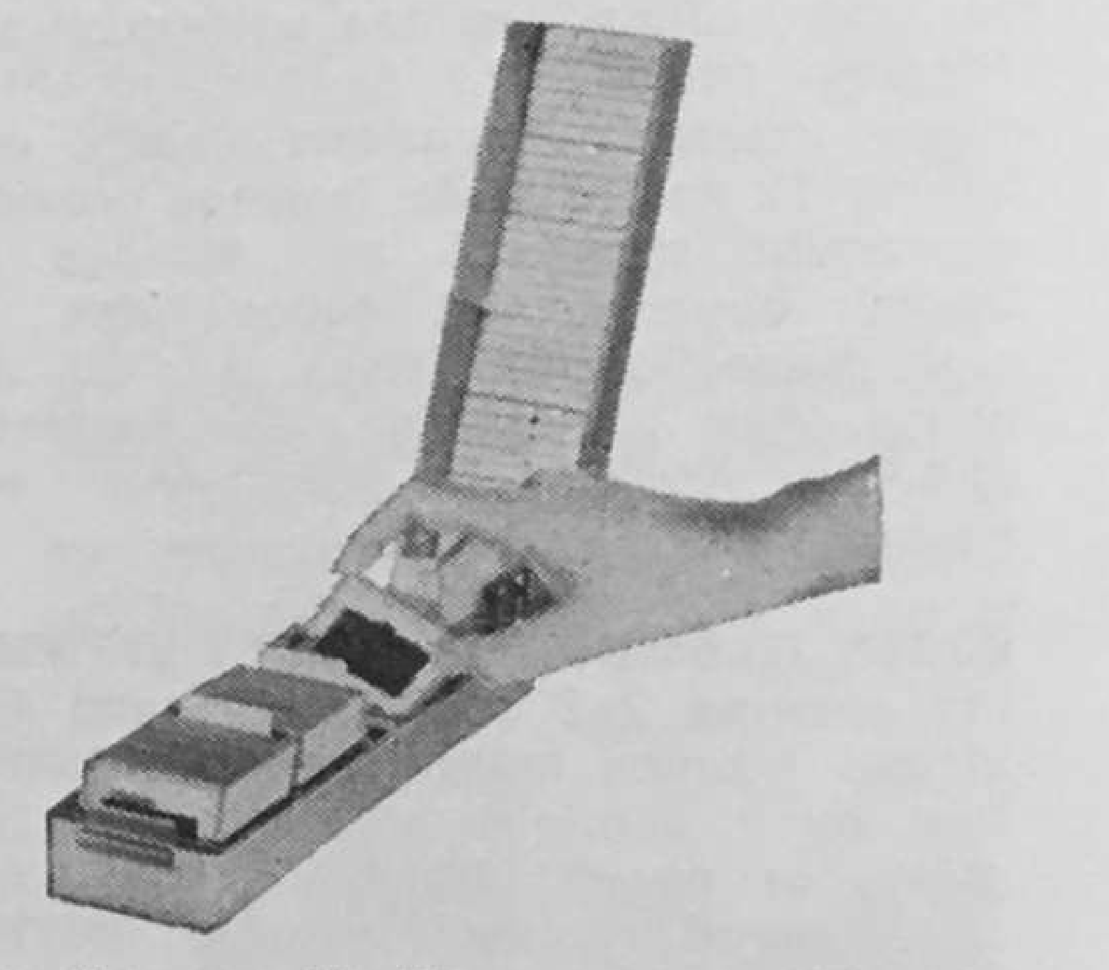
slide files, cabinets, racks

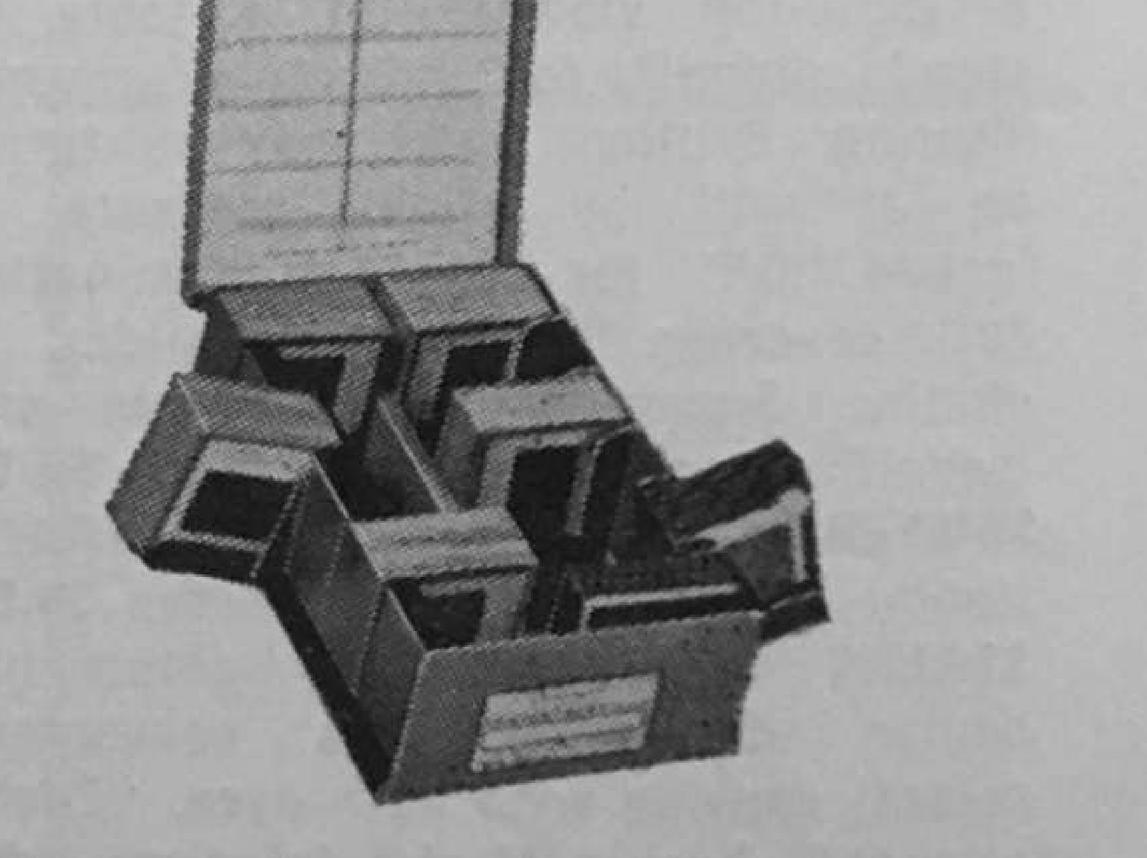


KODASLIDE READY-FILE is easy to carry and store. Holds up to 200 Kodak Ready-Mounts, 66 2x2" glass-mounted slides, 100 stereo mounts, or 6 Kodaslide Boxes with 20 or more slides in each box. Tab separators and index supplied. Available in red, green or beige. **$2.25**

KODASLIDE 400 FILE BOX holds up to 400 cardboard or 176 glass slides stored in 16 Kodaslide boxes, for handy slide group filing. With leatherette-covered case, **$5.75**

KODASLIDE BOX. Each of these compact, shatterproof, Polyethylene boxes holds twenty or more Kodak Ready-Mounts for convenient slide group filing system. Kodaslide Ready-File accepts 6 boxes. Carton of 6 Kodaslide Boxes, **75¢**

KODASLIDE COMPARTMENT FILE has 12 compartments, each holding 20 Kodak Ready-Mounts or 8 2x2" glass slides.



Slides may be organized by occasions or other groups; then that particular compartment can be swung out as shown, for easy access to that group of slides. With textured ivory-colored top and either green or red base, **$4.25**

BAJA AIREQUIPT SLIDE ACCESSORY CASE is portable, ideal for storage. Holds 16 Airequipt magazines or 14 magazines and one Airequipt changer. Brown pebble-grained leatherette covering. Model AE-16, **$11.95**

BAJA "2 in 1" UNIFILE AND CLASIFILE DRAWER TYPE SLIDE FILES for 2x2″ and stereo slides. Two, three and four drawer portable cases and six and eight drawer sectional library cabinets. Available with "2 in 1" Unifile drawers for individually filing 2x2″ and stereo slides, or with "2 in 1" Clasifite drawers for group filing. Three and four drawer cases have felt lined interior base for accommodation of stereo viewer instead of lower drawer. Sectional cabinets with door and identification card holder. Three drawer case **$13.95**; six drawer cabinet **$23.95**; eight drawer cabinet **$29.95**

BAJA UNIFILE SLIDE FILE CASES FOR 2x2″ SLIDES have index-spaced one-piece units or drawers; dust free valance opening; blue leatherette or tweed covering; removable index cards. Model U-100 accommodates 100 2x2″ glass slides or 300 readymounts, **$4.45.** Model U-500 accommodates 500 2x2″ glass or 1500 readymounts, **$16.45**

BAJA REFLEX SLIDE CASES hold all reflex slides 2¼x2¼″ to 2¾x2¾″. Two-tone. Use Versafile drawers for individual or group filing. G-24 permits filing by subject, takes 250 to 600 slides, **$9.45.** V-324 is portable, has 3 Versafile drawers, holds 300 individually filed reflex slides or 450 filed in groups or sequence, **$17.45.** LV-24 is a library cabinet with 6 Versafile drawers, holds 600 individually-filed reflex slides, or 900 in groups or sequence, can be nested, **$29.95**

BAJA LIBRARY CABINETS are ruggedly constructed of plywood. Ideal for 2x2″, reflex and stereo slides. Drawers are interchangeable with respective carrying cases. Cabinets can be nested one in another. Prices from **$23.95**

BAJA #3144 LANTERN SLIDE CASE has sturdy board dividers for individual filing. Takes 50 3¼x4″ glass slides. Blue or brown leatherette. Versafile bakelite indexed unit for individual or group filing of 50 to 75 slides, **$7.25**

BAJA UNITS AND UNIT DRAWERS are designed primarily as accessories for Baja slide filing cabinets. Model UX-1, Unifile Unit, fits Baja U-100, U-200 and EC-1, **$1.50.** Model UX-3, Unifile drawer for U-300, L-600, Royal Projector Cases, **$1.95.** Model GX-1, Sequence Drawer for G-150, G-300, **$1.50.** Model GX-3, Sequence Drawer for G-450, L-900, Royal Projector Cases, **$1.95.** Model UX-25, Unifile Unit for U-250, U-500, **$3.40.** V-24 for V-324, LV-24, **$2.75.** Model US 60, for TS-180, LS-360, Royal Projector cases, **$1.95**

BRUMBERGER SLIDE FILES, CABINETS and STEREO FILES. All steel, spot welded construction. Slide files have index card and numbered identification strips. #1050 holds 100 cardboard or 50 2x2″ metal or glass slides **$1.98.** #1150 holds 300 cardboard or 150 metal or glass 2x2″ slides **$2.95.** #1149 holds 660 cardboard or 330 metal or glass slides, with dividers for group filing, **$3.49**; extra dividers, each **5¢.** #1101 holds 440 cardboard or 220 metal or glass 2¾x2¾″ slides with dividers for group filing, **$3.95:** #1100 holds 200 cardboard or 100 metal or glass 2¾x2¾″ slides **$3.95.** #1075 holds 150 cardboard or 75 metal or glass 3¼x4″ slides **$3.95.** #1097 six drawer cabinet, 1500 cardboard or 750 glass or metal slides 2¾x2¾″, **$39.95.** #1093 six drawer cabinet holds 1800 cardboard or 900 metal or glass slides 2x2″ **$29.95.** #1094 six drawer cabinet holds approximately 1980 metal or glass (twice as many in readymounts) slides 2x2″ **$29.95.** #1092 housing only holds a total of six #1149 and/or #1150 and/or #1032 files **$14.95**

IDEAL LANTERN SLIDE RACKS are all wood; have been serving photographers for over 25 years. Model 42, for professional use, has full capacity of 42 negatives from 14x17″ down to lantern slide size. 24″ long with cast metal end frame. Wide legs eliminate possibility of tipping over. **$12.50**

LINHOF 85x85MM SLIDE FILE holds about 200 glass slides; made of fine seasoned wood, beautifully finished, **$16**

NEGAFILE #3500 SERIES for 2x2″ slides has single drawer. (#3500-FS holds 54 containers for filmstrips in individual compartments.) #3500-1 holds 250 glass or 500 readymounts, has numbered slots for identification; #3500-G for group filing 1625 readymounts or 750 glass slides, visible and movable subject tabs for grouping, **$16.95.** "MASTER" #250 holds 650 readymounts or 250 glass slides; movable tabs permit filing by subject, dustproof; felted bottom; removable index; glossy natural finish, **$8.95**; walnut finish, **$10.95.** "FIVE-IN-ONE" No. 195 holds 90 glass or 180 2x2″ readymounts (or 50 glass or 100 cardboard stereo) **$1.95.** "SEQUENCE" NEGA-FILE #125 holds 130 readymounts or 65 glass slides, brass-plated catch, butt hinges, natural-finish hardwood. **$3.50.** "DELUXE" #100 has numbered slots for identification, removable index, raised liners, felted bottom, holds 200 readymounts or 100 glass slides, natural finish hardwood, **$8.95**; #150, holds 150 glass or 300 readymounts, natural finish, **$10.95**

VPD SLIDE-SHO DESK FILE. Hold 1000 color slides on your desk in this handy, compact file box. Handsome hammertone metal. Convenient carry handle. Comes with 10 Slide-Sho pages plus 10 index dividers. 40 more pages can be added giving a filler capacity of 1,000 slides. Comes in saddle tan. Page size 11x8½″, **$11.95**

tray cases

AIREQUIPT CASES hold Airequipt magazines with or without changer or adapter. Plywood, with locked corners, brass-plated hardware and plastic covering. PC-12 for 12 magazines (or 11 magazines and changer) **$10.95**

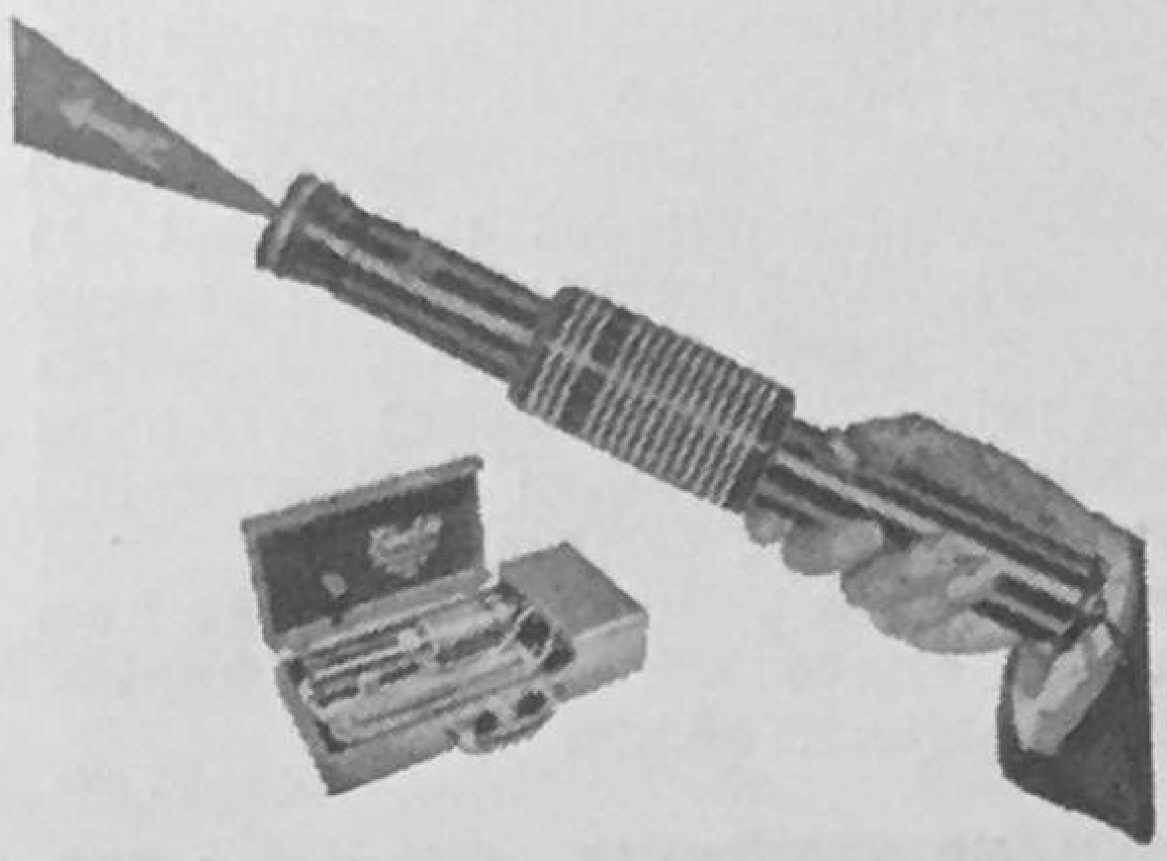
filmstrip files and cabinets

BRUMBERGER FILMSTRIP FILES & CABINETS. Steel files hold 32 cans in individual compartments. With multiple-index-control card. #1032 file, **$3.49.** "Files" become drawers in the #1092 cabinet. 6-file cabinet is all-steel, holds 192 filmstrip cans, **$14.95.** #1095 cabinet, with 6 steel drawers for 192 filmstrip cans, **$29.95**

NEUMADE FILMSTRIP CABINETS are all steel. MF6 six-drawer model accommodates filmstrip of various lengths, each in its own compartment, individually indexed, with master-index cards on front of each drawer. Capacity, 336 1½″ paper-labelled lid cans commonly used for 35mm strips. Each drawer has 7 adjustable dividers to separate into divisions of desired width. Drawers have backstops, are removable. Can be stacked one atop another; neulox feature holds each cabinet in position. **$45.** MF-3, same as above but 3-drawer unit with capacity of 168 filmstrips. **$27**

projection pointers

EDNALITE PROJECTION POINTER throws a sharply defined arrow "pointer" on any desired part of screen. Ideal for salesmen, lecturers, instructors. Aspheric optical system projects crisp, sharp, intensely brilliant arrow on screen for extra-long projection throw.



Uses standard 32 candle-power automotive lamp, 115-volt AC. Transformer is built into deluxe permanent carrying case. UL approved. Precision lathe-machined lightweight metals, completely anodized. Feather touch momentary switch. With 15 ft. of cord, all contained in solid wood-framed leatherette—lined-and-covered fitted instrument case **$69.50**

PERFECTION ELECTRIC POINTER makes it easy for speakers and instructors to point out any part of a projected image, without leaving the microphone or speaker's position, or obstructing the audience's view. Uses 3 inexpensive flashlight batteries; throws a sharp spot. Hand-held. Has adjustable focus for use in any size room or auditorium. Color filters may be added. 11¼″ long, weighs only 16 oz. **$13.85**

room darkeners

AMERICAN DARKROOM SHADES are made of completely lightproof material, washable, resistant to chemicals usually used in the darkroom. Window size up to 36x72″, **$8.50;** 54x72″, **$13.50.** **LIGHT-PROOF LOUVRES,** 12x12″, **$21.50;** 12x24″, **$30**

DRAPER LITE-LOCK is a darkening-shade unit with a hinged-cover roller box that simplifies removal of shade. Has side channels and cloth apron to cushion against sill; sill channel unnecessary. Price depends on overall width and length of shade and whether it is to be hung inside or outside of opening.

DRAPER PAKFOLD SHADE can be used to darken one or more windows. Easily portable, easy to mount and remove with unique pulley fork; no screws or ladders necessary. From 28x60″, **$8.05,** to 150x144″, **$56.37**

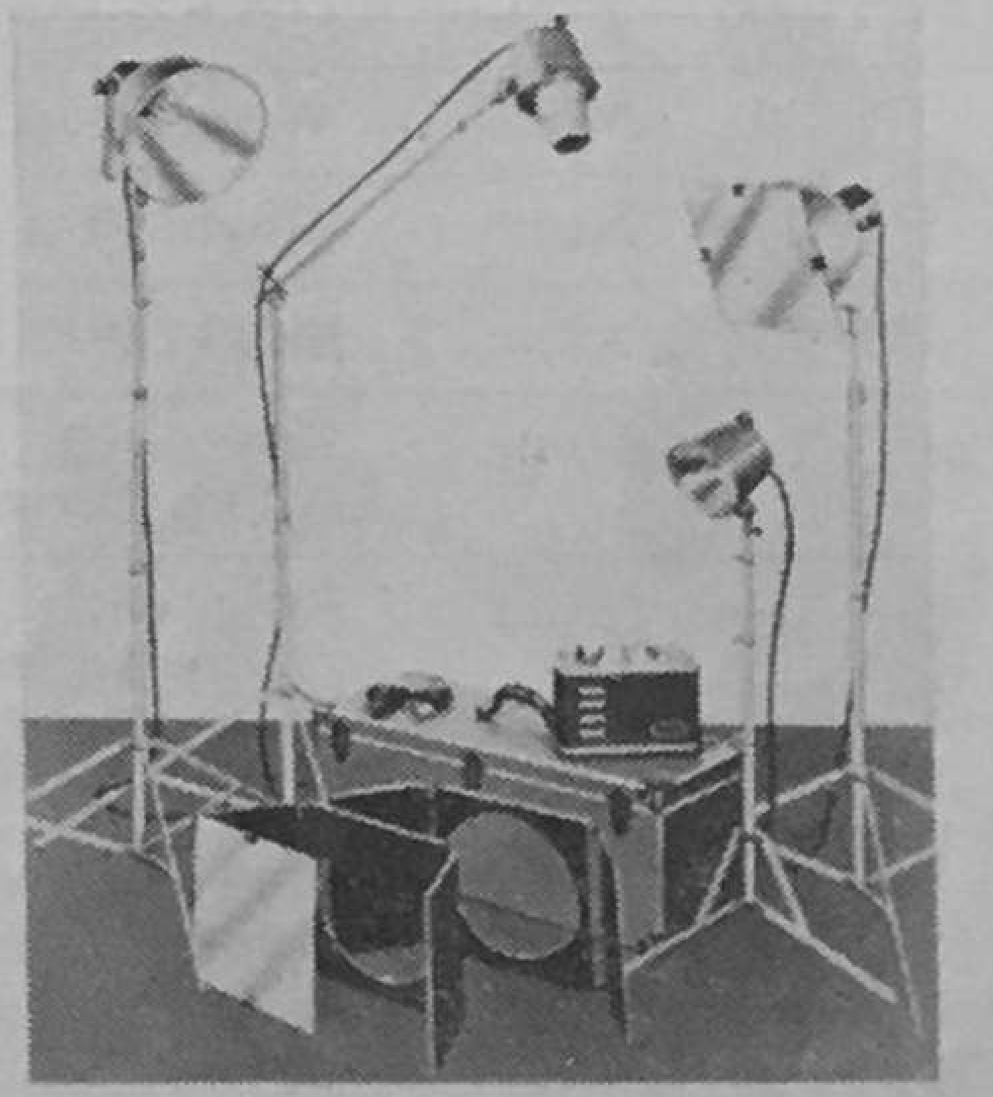
DRAPER STATIONARY ROLLER SHADE is designed for darkening room during projection. Black Drapex cloth has no filling or coating, hangs without bagging or curling. From 28x36″, **$4.69,** to 102x144″, **$39.93**

DRAPER X-L WINDOW SHADING UNITS are recommended for windows requiring shades more than 9 feet wide. The X-L Shade is a combination of inverted L-shaped steel shields with self-contained special shade roller brackets and shades that overlay one on the other in the same way that shade cloth overlaps a window casing. A middle shade overlaps the two shades on each side of it by 6″. This margin of cloth overlap of one shade over another is provided by offset brackets mounted on the shield at the factory. To install the X-L, simply attach the angle shield to wall, ceiling or window head. The X-L allows ventilation around each shade of the unit and from the top and bottom of the group; collects a minimum of dust and maintains the trim and balance of window appearance. X-L shade units are assembled to order. Our field representatives are experienced in measuring specifications. From **$54.98** for 10x7′ 3-shade unit to **$228.77** for 31x12′ 1-shade unit.

FLASH EQUIPMENT

electronic flash units —portable and studio

ASCORLIGHT SERIES 400 units are heavy duty, high power portables with 900V flash tube operation. Max. power is 200 to 400W-Sec. MODEL A 423 (illust.)



Transistor unit has push button operation; Hi or Quarter power with 2 stops difference; trigger tube synch., slave operation with phototube and can operate from Nickel-Cadmium or "D" cell type batteries. Kodachrome guide #70, 7½ lbs. w/"D" cells. Less battery & charger, **$195.** Other units; from 60W-Sec. single units to four light double power studio assemblies, **$120** to **$690**

ASCORLIGHT SERIES 500 PORTRAIT STUDIO LIGHTS come in ten different types, with four power supplies and 5 stand types, to give greatest selection of features, controls and power to meet all studio requirements, large or small.

Ranging from: 100 to 400 Watt-second units that feature 2-16″ & 2-20″ Studio

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lights, 4½x8" Spotlights, and four Hairlights and Backlights—these units have 100, 200 or 400 W-Sec. power supplies. **ECONOMY ASSEMBLIES:** consisting of 16" Studio light, Baby Spot, Hair or Backlight assemblies plus 100 W-Sec. power supply, **$170** to **$194;** 200W-Sec., **$234** to **254;** 400W-Sec., **$325** to **$345. BUDGET ASSEMBLIES:** consist of 100W-Sec., Economy assembly plus lightweight studio stand, **$178** to **$229. DELUXE ASSEMBLIES:** consist of 200 or 400W-Sec. assemblies plus heavy duty stand, 200W-Sec., **$248** to **$325;** 400W-Sec., **$338** to **$398. LIGHT UNITS** only: w/tubes & modeling lamp, etc., **$58** to **$99; POWER SUPPLIES: $115** to **$270; STANDS: $9.95** to **$295**

ASCORLIGHT 600 SERIES are high powered, light-weight units that combine portability with maximum light intensity. Units range from 800 to 3200W-Sec. **MODEL A 620** (illust.) has 2,400W-Sec. power, can also operate one 1600 & one 800W-Sec. lights. With power supply, stand and light unit, **$1,130.**

Other complete units, **$595** to **$1,920. POWER SUPPLIES** only: **$480** to **$1,400. LIGHT ASSEMBLIES: $79** to **$345. STANDS: $9.95** to **$295**

GRAFLEX STROBOFLASH IV PORTABLE ELECTRONIC FLASH UNIT has a 4-way control switch with setting of 50, 100, 150 and 200-watt seconds for selecting the desired output. It is capable of reducing light intensity without wasting power of the batteries. Features rapid recycling, has no moving parts except simple, rugged selector switch. It uses no liquids or corrosive compounds. Flash duration of approximately 1/1200, 1/1800, 1/1600 and 1/1400 seconds with a recycling time between flashes of 3 to 10 seconds, according to the watt-second setting. Equipment includes the lamp head, power pack with 10' Koiled Kord, L-bracket and rubber battery case adapter. Complete (less batteries), **$165.95.** Batteries each, **$9.95.** Accessory Lamp Head, **$47.50.**

Photo Tube Assembly, **$9.90.** Battery Booster to restore effectiveness of dry batteries, **$34.50.** Extension Cord, **$5.95.** L-Bracket, **$3.40.** Rubber Battery Case Adapter, **90¢.** Metal Battery Case Adapter, **$2.25.** Mounting Tube, **$1.10**

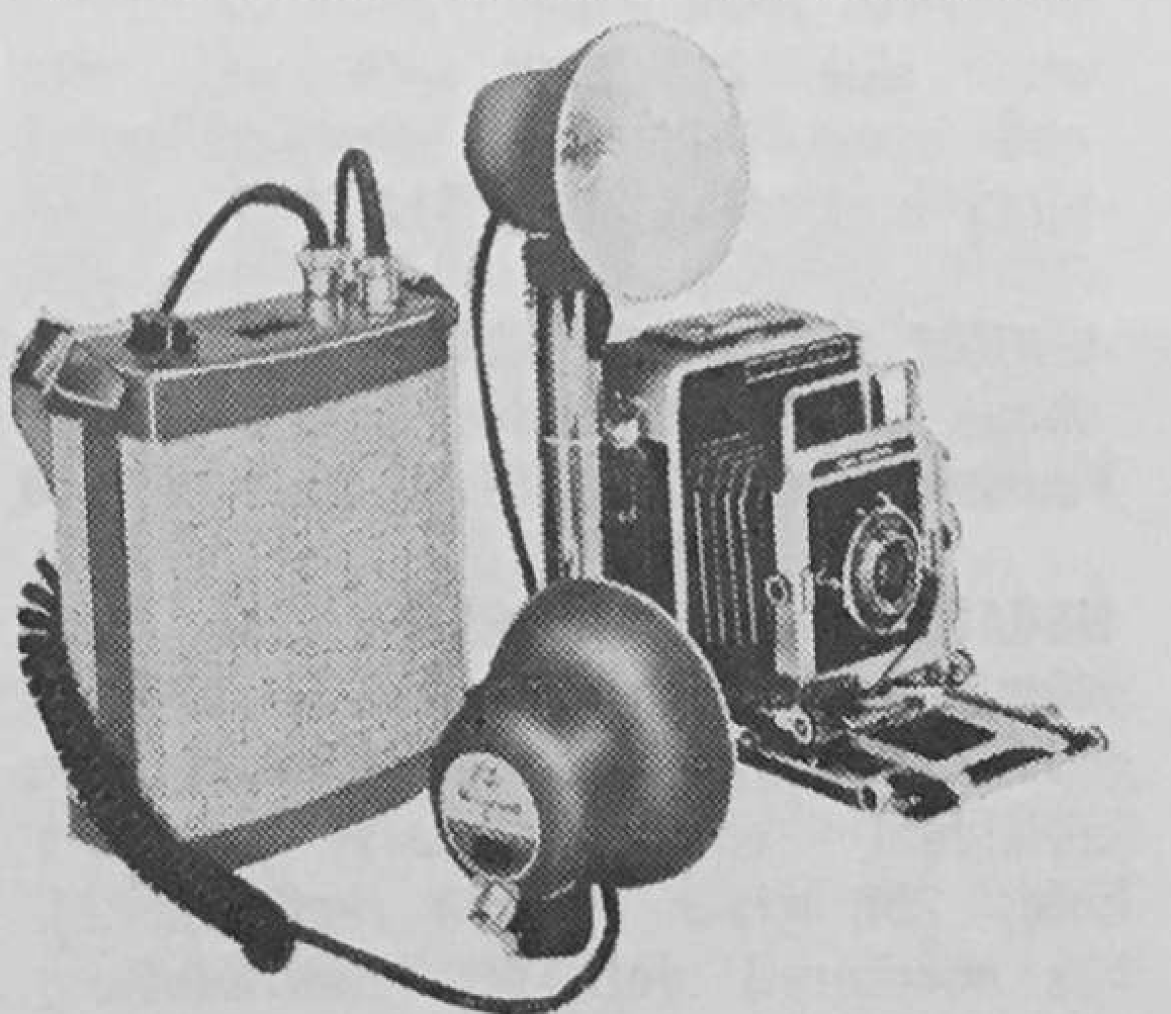
HEILAND FUTURAMIC STROBONAR 64B, completely self-contained, no separate power pack. Gives both battery and AC operation from one compact unit incorporating 2 Honeywell transistors for superior performance, longer battery life. Only 11½" high; weighs but 32 ounces without batteries. Three D cells load in the handle like a flashlight; averages 200 flashes per set of ordinary photo-flash batteries, 350 flashes from Eveready E-95 Energizer batteries, or 200 flashes per charge from rechargeable Permacad nickel-cadmium batteries. Has Kodachrome guide number of 35; cycles in 8-12 seconds. Optical lens and reflector gives wide-angle, 70° light distribution. **$59.95.**

HEILAND FUTURAMIC STROBONAR P64B, identical to the Strobonar 64B, but has a special receptacle in the head for connecting the Heiland Prox-O-Lite, an around-the-lens Strobonar unit designed to provide shadowless light for close-up photography, **$69.95**

HEILAND STROBONAR 63-A is powered by one 510-volt battery that gives up to 1,600 flashes without appreciable loss in light output. 3-5 sec. recycling time. Less battery, **$63.55. STROBONAR 63-B** uses same power pak as 63-A but has lamphead that permits tripping or shutters equipped with Heiland or Graflex solenoids; selector switch for firing shutter and flash in synchronization from lamphead, or firing shutter alone; Micro-Switch button that operates from power source without extra batteries. Less battery, **$83.55**

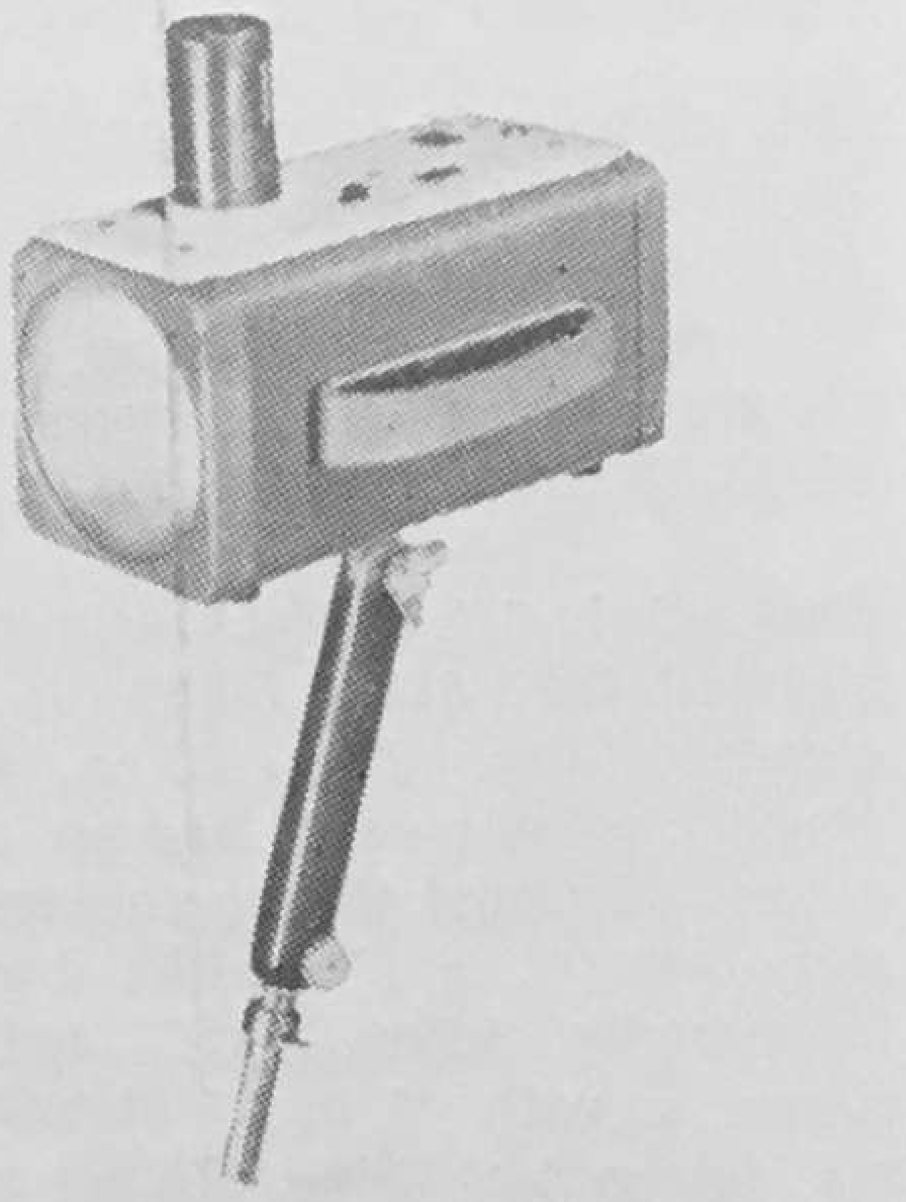
HEILAND STROBONAR 72-A uses a 510-volt battery. 70° wide-angle light distribution. Extremely fast (2-4 sec.) recycling. Flash duration, 1/1,000 sec. Guide nos Kodachrome 45-50, Ektachrome 70, Super Anscochrome 110. Exclusive capacitor-forming feature assures 600-800 flashes per battery. Less battery, **$99.50**

HEILAND STROBONAR 91-B has Kodachrome guide no. of 65. Operates from 6 Permacad. D-size nickel-cadmium batteries interchangeable with D-size photoflash batteries or from 50-60 cycle 110-volt AC. Batteries are rechargeable for unlimited number of cycles with built-in charger. Dual transistor monitor cut-off circuit conserves battery power, assures peak light output. Meter at top indicates condition of batteries.



Full or ½ light output. Coiled cord on lamp head. Neon indicator light. 5" custom lamp head permits use of modeling lamp, has extra two-position high-low switch on head. **$329.50**

HEILAND STROBONAR 60-S is a completely self-contained electronic flash slave unit. Compact, lightweight, balanced to mount easily on a light stand, Heiland Hold-It, or Foto-Clamp. Has handle for carrying. Neon ready light



built into reflector. Powered by 240-volt battery that gives approximately 1,000 flashes. Guide no.: 50 with fast color. Less battery. **$79.50**

MEGALUME PORTABLE ELECTRONIC FLASH UNITS have built-in chargers, rugged aluminum cases, easily accessible batteries and fuses to prevent damage to the units. All operate from internal battery or AC. Fast recycle times. Provision for supplying power from battery to solenoids, focus spots, etc. With accessory, can charge battery from automobile battery. Less batteries. **MEGALUME 1;** 4000 BCPS average, Kodachrome guide #50, 1/2500 sec. flash duration, 125 flashes/battery charge, **$151.35. MEGALUME 4;** Same

FLASHTUBES

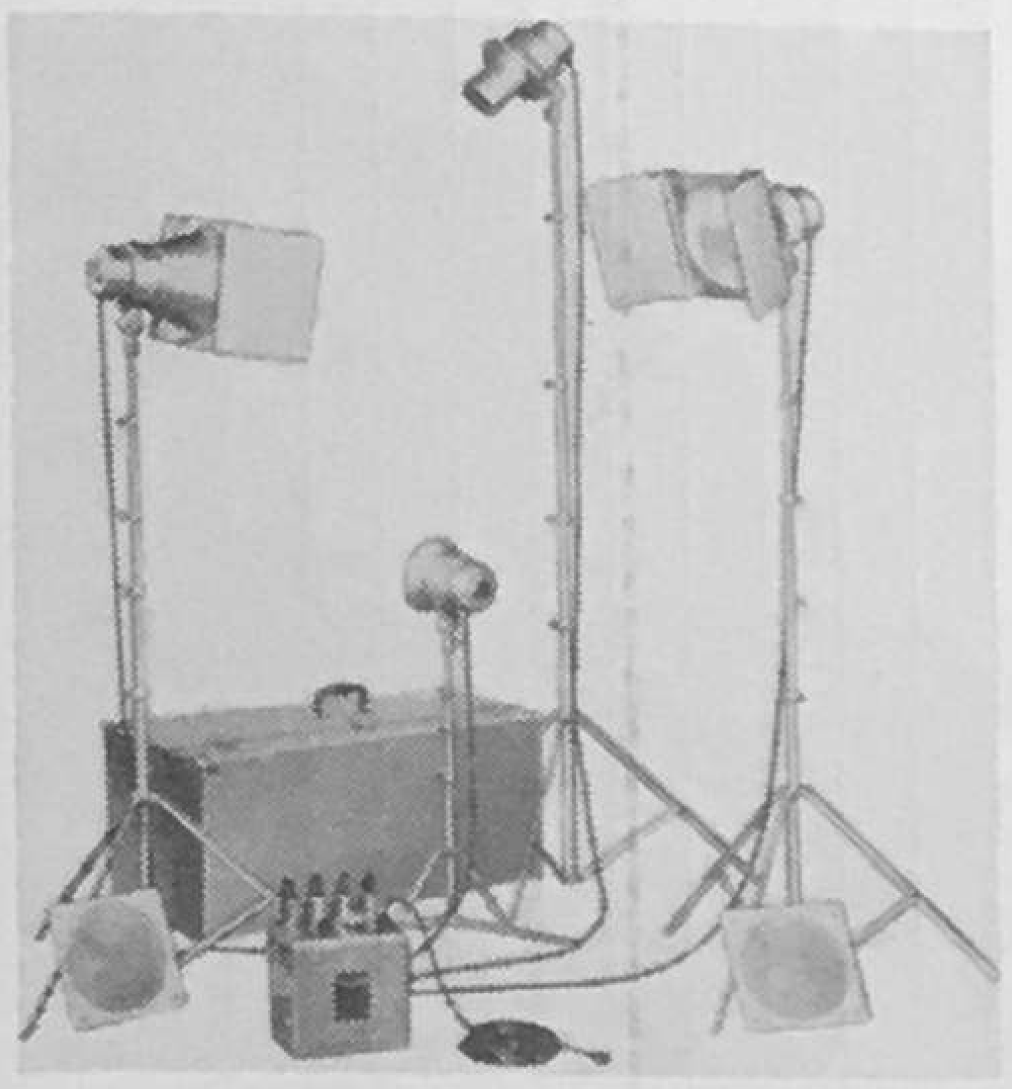
Flashtube Number	Outer Bulb	Base	Design Voltage	Max. Watt Seconds	Approx. Max. Lum.-Sec. Thousands	Approx. Helical Source Dimensions, Inches Width	Height	Light Center Length	Max. Overall Length	Price Each
FT-106	None(1)	1⅛" dia. disk with 3 pins	250	40	1.1	⅝(2)	⅝(2)	1 7/16	2 5/16	$ 5.60
FT-110	None(1)	1⅓" dia. disk with 3 pins	1000	100	4.4	⅞(2)	1⅜(2)	1⅝	2½	8.35
FT-118	None(1)	1⅓" dia. disk with 3 pins	500	125	4.5	¾	¾	1⅝	2½	7.90
FT-120	T-10	Radio-4 pin	500	125	4.5	¾	¾	1¾	2¾	9.10
FT-210	T-101F	Octal 3-Pin	2000	200	7	1⅛	1⅝	1⅞	3⅝	21.00
FT-214	T-12½	Giant 5-Pin	2000	200	7	1⅛	1⅝	2	3⅞	21.50
FT-217	T-10	Radio 4-Pin	1000	200	10	⅞	⅞	1¾	2¾	11.30
FT-218	None(1)	1⅓" dia.	1000	200	9	⅞	⅞	1⅝	2½	9.10
FT-220	PAR-46	3-Screw Term.	2000	200		1⅛	1⅝		3½	23.00
FT-221	T-10	Radio 4-Pin	1000	200	10	⅞	⅞	1¾	2¾	14.00
FT-306B	T-181F	Large 3-Pin	900	800	32	1⅞	1¼	3	5¾	23.75
FT-403	T-181F	Large 3-Pin	2000	480	19	1⅞	2⅜	3	6¾	24.50
FT-503	T-181F	Large 3-Pin	4000	2000	100	1⅞	2⅜	3	6¾	95.00
FT-506	T-11	Octal 5-Pin	900	1000	40	1⅛	1	2⅛	4⅞	55.00
FT-30	None	Wire Term.	150		Non-Helical				2 3/16	4.32
FT-230	None	Single Post	2000	200	Non-Helical				6⅝	81.00
FT-231	None	Single Post	2000		Non-Helical				6⅝	55.00
PXA-45	None	Spec. with Wire Term.			Non-Helical				15½	30.00
PXA-47	None	Spec. with Wire Term.			Non-Helical				27½	35.00
R-4306	U shape	None	175	40						4.35
R-4330	T-11	Med Octal	2000	100						29.10
R-4336	None	Med Giant	1700	52						64.20
R-4340	T-16	Med Giant	2000	400						60.50
R-4350	T-10	Med Octal	700	7.5						29.10

(1) For use in covered reflectors or housings only.

(2) Light Source is "U" shaped.

BCPS, duration and guide # as Megalume 1; uses 6v power supply, 200 flashes/battery charge, **$163.95. MEGALUME 2;** has 2 operating positions, 100 or 200 watt-seconds, through use of one or 2 flash heads as may be required. 150 to 200 flashes/battery charge depending upon battery used. 8000 BCPS; Kodachrome guide #70; flash duration, 1/2500 sec. @ 100WS, 1/1400 sec. @ 200WS, **$256.90**

PHOTOGENIC FLASHMASTER SPEEDLIGHT OUTFITS, completely portable, available with 200 watt-second power pack for black and white home portraiture and school photography or 400 watt-second power pack for black and white and color photography. Flashtubes and modeling lamps mounted concentrically to assure same illumination for both.



All outfits w/carrying case. Choice of 6″, 9″, or 16″ lights. **FLASHMASTER** two light outfits, **$333** to **$509.85. FLASHMASTER** three light outfits, **$401.62** to **$578.47. FLASHMASTER** four light outfits, **$463.05** to **$639.90**

PHOTOGENIC STUDIOMASTER SPEEDLIGHTS have 4-power Push Button Intensity Control Power Supply. Various colored, illuminated push buttons indicate at glance, power at which each light is operating. Simultaneous modeling lamp intensities are in relation to flash intensities. Adjustable for either Phototube triggering or new optional "Tripmaster" high frequency radio control which triggers all lights simultaneously. **Speed Spotlight;** 200W-Sec., **$266.65;** 400W-S, **$399.38; Hi-Lighter;** 200W-Sec., **$288.25;** 400W-Sec., **$420.98; Modeling Speedlight;** 200W-Sec., **$311.20;** 400W-Sec., **$401.15; Varibeam Speed Spotlight;** 200W-Sec., **$325.80;** 400W-Sec., **$458.55**

PHOTOGENIC STUDIOMASTER MODELING SPEEDLIGHT offers superior manipulation, design and ease of handling.

Used with Rotatable Barndoors, you can achieve beautiful lightings. Modeling Speedlight 200 Watt-Seconds, **$311.20;** 400 Watt-Seconds, **$401.15;** Rotatable Barndoor (Includes Diffuser), **$38.03;** Diffuser Only, **$11.48**

PHOTOGENIC TRIPMASTER eliminates phototube operation of speedlights through use of small transmitter at camera and receivers installed at each speedlight power supply. High frequency pulse synchronized with camera shutter is generated by transmitter. This is intercepted by receivers, resulting in triggering of all light simultaneously. Tripmaster Receiver fits the phototube receptacle of power supply unit. **Transmitter, $40.50; Receiver** (one for each light), **$15.75**

PHOTOGENIC BOOM-MASTER SPEED SPOTLIGHT has convenient, easily manipulated mechanism which permits tilting and rotating the light to any desired angle by moving handle on counterbalance end of boom arm. Can be raised to any practical height. **$319.95**

PHOTOGENIC BACKGROUND SPEEDLIGHT has 1 6½″ reflector with remarkable light spread. Detachable rotatable barndoors. 4-Power Push Button Power Supply is placed to side of background to intercept flash from main light. May be used on stand or stand base. 200W-Sec., **$235.35;** 400W-Sec., **$368.10**

STROBOFLASH II PORTABLE ELECTRONIC FLASH UNIT. For use with cameras having X or O delay type shutters. Features include Koiled Kord that permits 10′ stretch without knotting; super-satin reflector that eliminates "hot-spot," achieves full brilliance. With fast panchromatic film, guide number is 220-320. Unit is powered by two 225-volt easily changeable batteries; watt-second output 100. Fires every 3 to 4 seconds; flash duration approximately 1/1000 sec. Flashtube good for about 10,000 flashes, guaranteed. Unit has electronic triggering system. Removable, interchangeable chassis. Compact, self-contained, ruggedly constructed . . . complete (less batteries) in a mar-scuff-scratch-proof case, **$99.50.** Batteries each, **$9.95.** Accessory Lamp Head, **$47.50.** Photo Tube Assembly, **$9.90.** Battery Booster to restore effectiveness of dry batteries, **$34.50.** Extension Cord, **$5.95.** L Bracket **$3.40.** Rubber Battery Case Adapter, **90¢;** Metal Battery Case Adapter, **$2.25.** Mounting Tube, **$1.10**

STROBOMITE—an entirely new electronic flash unit. Operates on 4 inexpensive Photoflash D cell batteries or 6-cycle, 110-120 volt AC. Has adjustable reflector. Energy Storage: 50 watt seconds nominal. Flash duration: approx. 1/1100 sec. Recycling time: battery, 10 seconds; AC, 6 seconds. Weighs 3 lbs. 12½ oz. Strobomite Power Pack and lamp head complete, with AC Supply Cord, less batteries, **$64.50.** Wired Shoe Adapter permits fitting to cameras with internally wired flash clips, such as Graphic 35, Argus C-4, Stereo Realist, Graflex 22 and others. **$2.95.** 15-ft. L Bracket for lamp head, **$3.40**

STROBOFLASH CIRCULAR LIGHT for use with Stroboflash I, II, III, or IV. Attaches to Lensmount with Series 6 Adapter Ring. Provides "flat" illumination—ideal for copy work, catalog illustrations, medical photography and many other uses. **$49**

flash guns

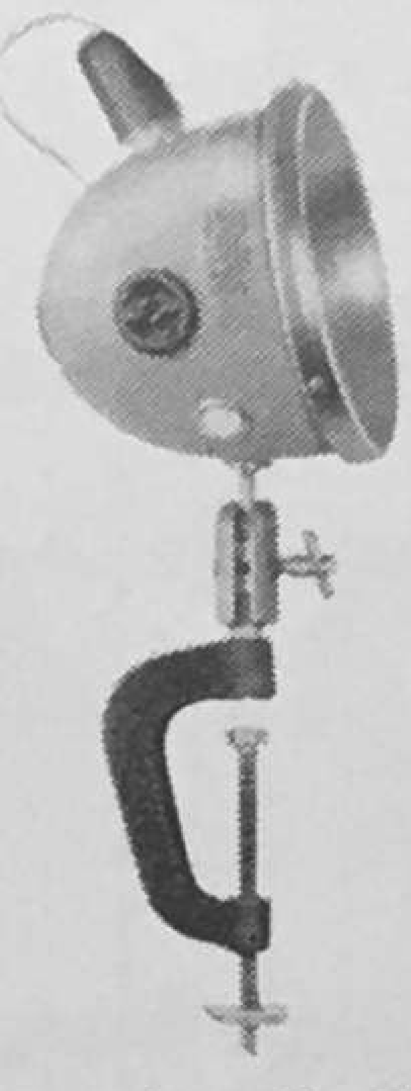
GRAFLASH M FAN-FOLD FLASH UNIT uses popular pinless base flash lamps. (M-2, M-5, M-25). Folds for compact storage in its own case. Easily carried in shirt or coat pocket. B-C power for economical, positive performance. For Century 35 Cameras and other miniature cameras having 3mm p.c. (Small cap cord) flash connector. **$4.95**

GRAFLITE FLASH SYNCHRONIZERS. #2736 for between-the-lens shutters. has 3-cell battery case; 5″ reflector; automatic lamp ejector; micromatic switch; remote control outlet. 3-position series-parallel switch; 5 identified outlets. Choice of right or left mounting, provision for multiple battery connections. With solenoid mount, connecting cord **$44.95.** #2738 has 7″ reflector for standard screw-base lamps, 3-cell battery case **$44.95.** 5″ reflector **$8.65;** 7″ **$8.65.** Extension tubes **$2.95.** Connecting cords fr., **$2.** Sidelighting unit **$13.95.** Mounting brackets fr., **$2.** Safety shield for 5″ reflector **$4.50.** Diffusion disc for safety shield, **$2.15**

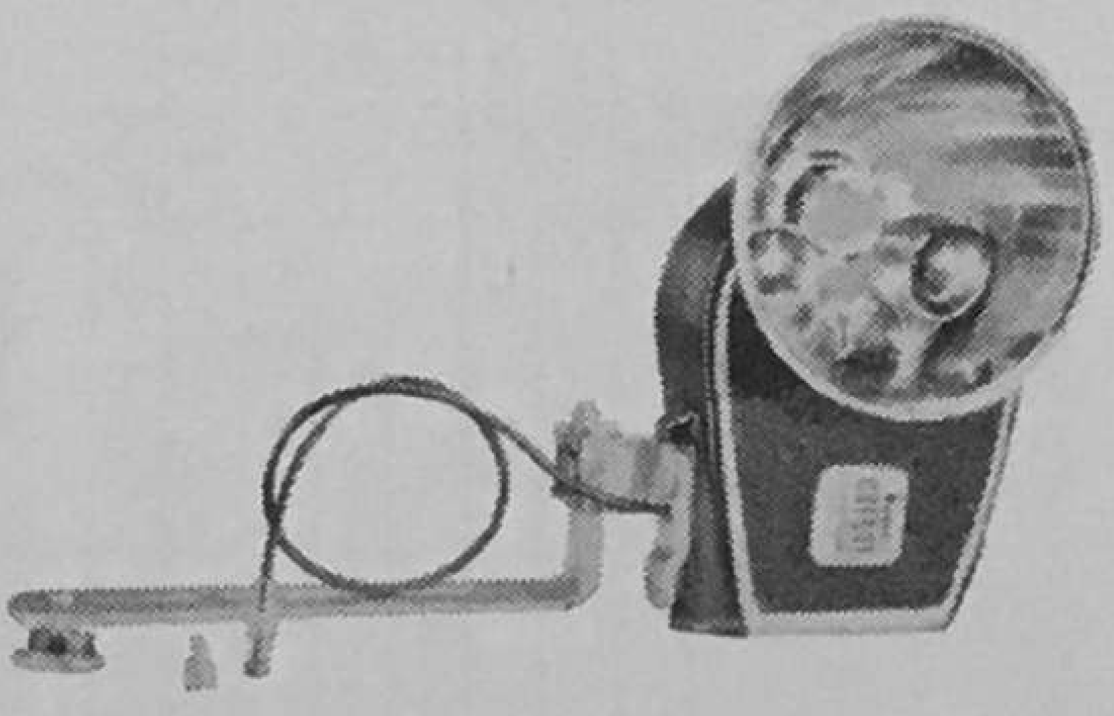
GRAFLASH B-C (2 Models)—For cameras with wide acceptance foot and for Compur and ASA bayonet fittings. Uses flat 22½ volt photoflash battery—polished reflector provides 60° of even light-has lamp ejector. Less battery, **$7.95**

GRAFLITE FLASHING UNITS for cameras with built-in flash synchronization. All units have 5 outlets; reflectors have lamp ejectors. 3-position series-parallel switch; micromatic switch; remote control outlet. Provision for multiple battery case connections; choice of right or left mounting. Right angle and platform brackets permit use with miniature and reflex cameras with built-in synchronization. #2725 has 2-cell battery case, 5″ reflector **$27.95.** #2727 has 7″ reflector, 2-cell battery case, connecting cord **$27.95.** #2735 has 3-cell case, 5″ reflector **$27.95.** #2727 has 3-cell case, 7″ reflector **$27.95**

TELEFLASH—Graflex-made. Automatic slave unit for midget size bulbs. Insert lamps and the unit is "on"; firing of lamp automatically turns unit off. No switches to forget, no batteries to run down. Equipped with side outlet to permit use of extensions with standard base Quick Change Clamp, **$79.** Batteries each, **$1.75**

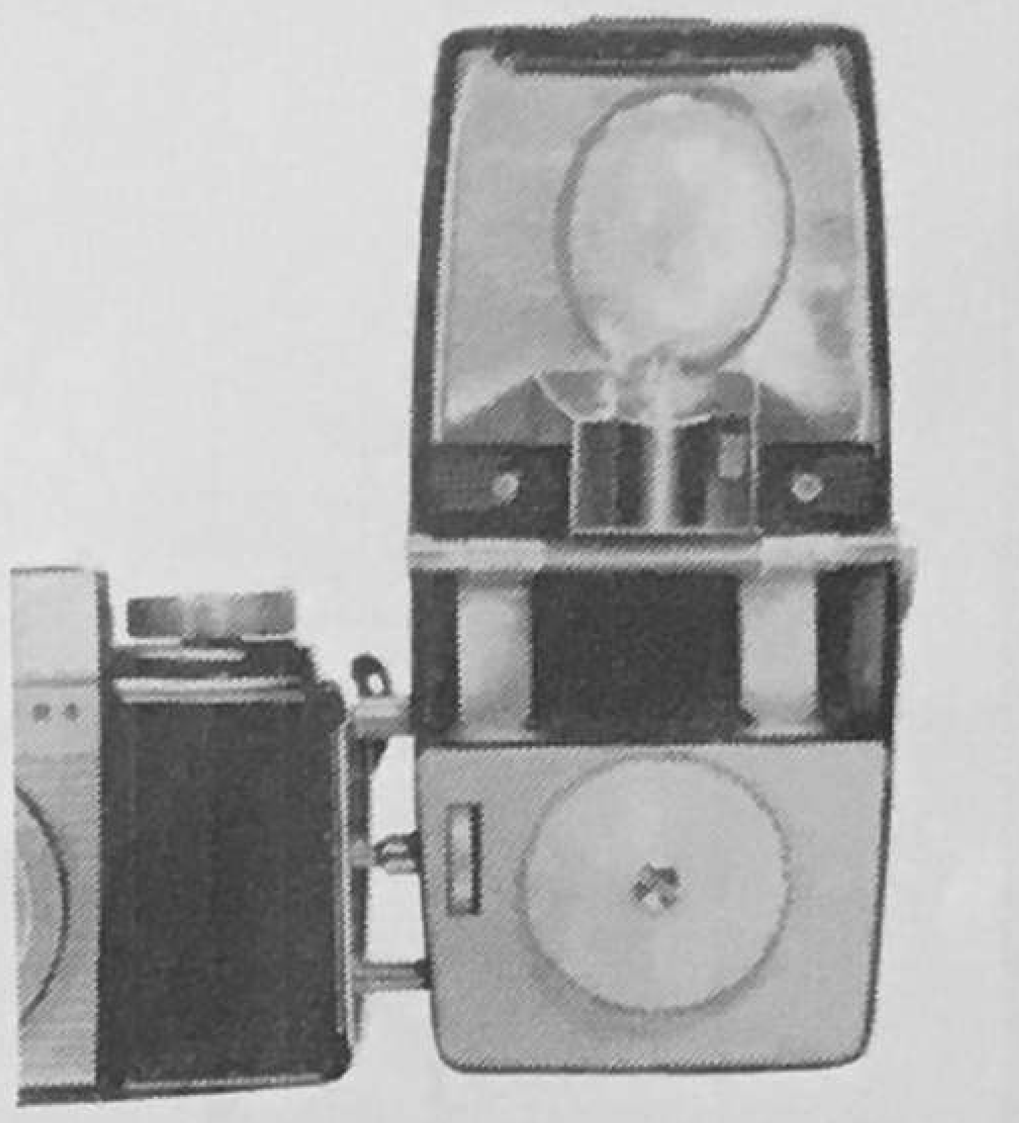


KODAK ROTARY FLASHOLDER takes 6 shots without reloading. Rotating magazine automatically positions new lamp. All 6 lamps ejected simultaneously from magazine and disc (preloaded with M2 lamps) quickly inserted for 6 additional pictures. Has direct-reading, dial-type exposure computer. 3½ inch Lumaclad reflector. Battery condenser powered for dependable synchronization and long battery life. Uses 15-volt photoflash battery (not supplied). Type 1—With Kodalite-type fittings (for most Kodak and Brownie cameras). Black. **$10.95.** Type 2—(Illus.) With shoe and bracket fittings and cord with interchangeable tips for ASA or continental flashpost connectors. With shoe, fits accessory clip of kodak Retina and similar cameras. With bracket, fits Kodak Pony 135 and most other cameras. Black. **$12.95**

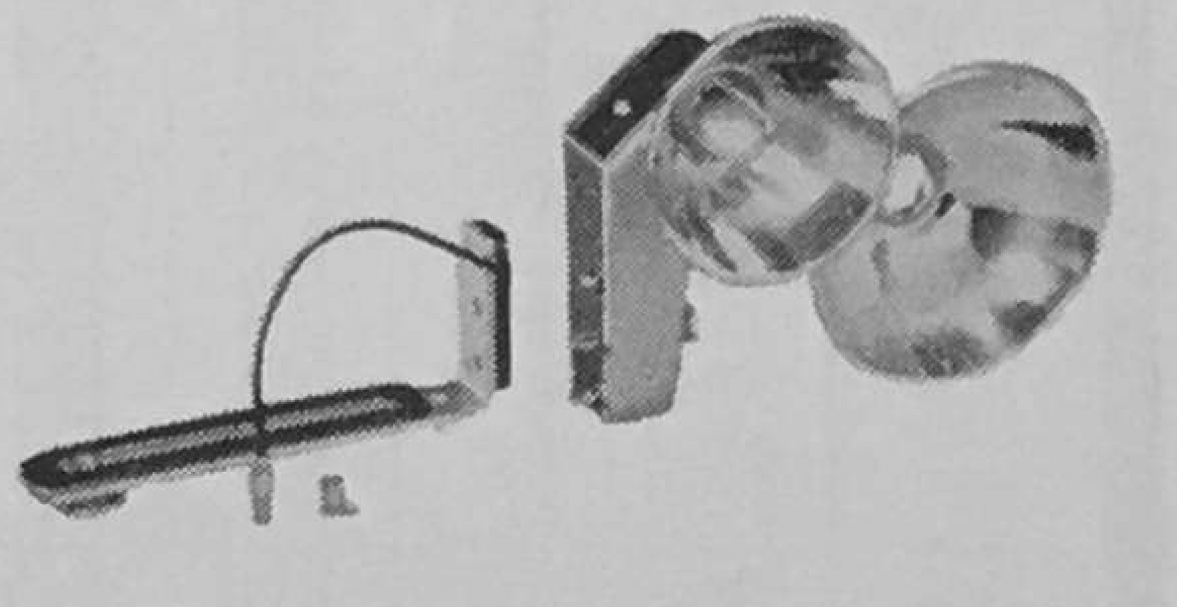


KODAK B-C FLASHOLDER — For most synchronized cameras with ASA bayonet or continental flash connectors. Built-in system for flash "synch" and long battery life. Can be used with Kodak Extension Units. 5-inches. Lumaclad reflector, 15″, cord, exposure guide on reflector, and uses 22½-volt photoflash battery (not supplied). Black, **$9.95**

KODAK GENERATOR FLASHOLDER is a compact unit which frees the photographer from depending on batteries. Built-in generator fires the lamp; just a half turn of the nylon hand wheel stores enough electricity in the capacitor to fire any one of the popular M-2, 5, 25, M5, M-25 flash bulbs. Flasholder folds to about the size and shape of an electric razor and slips into your pocket. Easy-to-use calculator reading in both "F" and EVS numbers is printed on back of reflector. Type 1 has direct Kodalite fittings for such Kodak cameras as the Brownie Stars, Pony II and IV, and Signets 30, 40 and 50, **$13.95.** Type 2 has shoe fitting and cords for mounting in the accessory clip of many cameras, **$14.95.** Either of these types will fit most cameras. Universal flasholder bracket with cord and tips, attaches flasholder to most cameras with ASA or continental flash connectors. **$2.95. KODAK POCKET FLASHOLDER** is similar to above but is powered by Penlite batteries; does not have the generator. Type B-1 has Kodalite fittings, **$7.95**



KODALITE SUPER-M 40 FLASHOLDER. Small, compact flash holder complete with detachable 3-inch and 4-inch reflectors for maximum, even illumination from No. 5, 25, 8, or M2 flash lamps. Sliding flash calculator on back. Attaches directly to Kodak cameras. with screw-in Flasholder fittings. With Kodak Universal Flasholder Bracket, attaches to most other flash cameras. Uses Kodalite Midget B-C Flashpak or 2 Penlite batteries (not supplied). Black. **$7.95**



KODAK SUPERMITE FLASHOLDER—Only 3½″ high, uses AG-1 flash lamp in miniature 2″ reflector. Has same light output as Kodalite Midget Flasholder with M2 flash lamps. Has Kodalite fittings, lamp ejector button, and flash exposure guide on back. Uses two penlite batteries or Kodalite Midget B-C Flashpack (not supplied) **$4.25**

RETINA FLASHHOLDER BRACKET—Special bracket and European-type shutter connector tip to fit Kodak. Retina "C" Cameras. Attaches Kodalite Super M-40 Kodak Rotary Type I, Generator Type I, and Kodalite Flasholders. **$2.95**

REGULAR FLASHBULB GUIDE

Lamp Class	Lamp Type	Light Output (Lumens-Secs.)	Approx. Time to Peak (Millisecs.)	Approx. Duration at ½ Peak (Millisecs.)	Approximate Peak Lumens	Voltage Range for Operation	Approximate Color Temperature	Bulb Shape	Bulb Diameter (Inches)	Maximum Overall Length (Inches)	Type Base	Lamps Per Carton	**Price Per Carton**	Lamps Per Case	**Price Per Case**
F (Fast Peak)	SF	5,000	6	5	800,000	3-45	3400° K	B-12	1½	2⅝	S. C. Bay	12	**$2.16**	144	**$25.92**
	PH/SM	4,800	5	5	810,000	3-45	3300° K	B-11	1⅜	2⅝	S. C. Bay	12	**2.16**	144	**25.92**
(Intermediate Peak)	M2	7,000	15	9	700,000	3-45	3800° K	T-6½	13/16	1 13/16	Min. Bay No Pin	12	**1.56**	144	**18.72**
	M25	16,000	15	9	1,200,000	3-45	3800° K	T-6½		1¾	Min. Bay No Pin	12	**1.80**	144	**21.60**
	"All-Glass" AG-1‡	7,000	15	15	400,000	3-45	3800° K	T-3¾	15/32	1 5/16	Glass Groove	12	**1.32**	144	**15.84**
M (Medium Peak)	Press 25	20,000	20	14	1,500,000	3-45	3800° K	B-12	1½	2⅝	S. C. Bay	12	**1.80**	144	**21.60**
	Bantam 8	7,000	20	10	700,000	3-45	3800° K	M-7½	15/16	2⅝	S. C. Bay	12	**1.80**	144	**21.60**
	Press 40	30,000	20	17	1,600,000	3-45	3800° K	A-15	1⅞	4 1/16	Med.	8	**2.00**	120	**30.00**
	Type O	20,000	20	14	1,200,000	3-45	3800° K	S-13	1⅝	3 13/16	Med.	10	**2.50**	120	**30.00**
	Type 2	62,000	20	18	3,000,000	3-125	3800° K	A-19	2⅜	4¾	Med.	6	**1.68**	60	**16.80**
	PF/1	7,500	20	8.5	600,000	3-30	3800° K	B-7	—	—	Baseless	8	**.80**	240	**24.00**
	M5	16,000	20	14	1,000,000	3-45	3800° K	T-6½	13/16	1 13/16	Min. Bay No Pin	12	**1.80**	144	**21.60**
	PH/5	20,000	20	13	1,450,000	3-45	3800° K	B-11	1⅜	2⅝	S. C. Bay	12	**1.80**	144	**21.60**
	PH/8	10,000	20	10	950,000	3-45	3800° K	BT-8	1	2 7/16	S. C. Bay	12	**1.80**	120	**18.00**
	PH/11	33,000	20	13	2,000,000	3-45	3800° K	A-15	1⅞	4	Med.	8	**2.00**	120	**30.00**
	PH/22	70,000	20	14	4,200,000	3-125	3800° K	A-19	2⅜	4¾	Med.	6	**1.68**	120	**33.60**
FP① (Focal Plane)	Type FP-26	19,000	—	24	600,000*	3-45	3800° K	B-12	1½	2⅝	S. C. Bay	12	**2.16**	144	**25.92**
	Type 2A	77,000	—	64	1,000,000*	3-45	3800° K	A-21	2⅝	5⅜	Med.	6	**2.10**	60	**21.00**
	PH/6	19,000	—	30	680,000	3-45	3800° K	B-11	1⅜	2⅝	S. C. Bay	12	**2.16**	144	**25.92**
	PH/31	81,000	—	53	1,400,000	3-45	3800° K	A-21	2⅝	5⅜	Med.	6	**2.10**	60	**21.00**
S (Slow Peak)	Type 3	110,000	30	18	5,000,000	3-125	3800° K	A-23	2⅞	5 15/16	Med.	1	**.32**	60	**19.20**
	PH/50	100,000	30	17	5,000,000	3-125	3800° K	A-21	2⅝	4⅞	Med.	6	**1.92**	60	**19.20**

NOTE: S. C. Bay. denotes Single Contact, Bayonet Base.
Med. denotes Medium Screw Base.
* [illegible]

① F. P. Class lamps are for use with Focal Plane shutters only.
‡ AG-1 and AG-1B work with X or F at 1/60 sec., with M at all shutter speeds.

COLOR FLASHBULB GUIDE

Lamp Class	Lamp Type	Light Output (Lumens-Secs.)	Approx. Time to Peak (Millisecs.)	Approx. Duration at ½ Peak (Millisecs.)	Approximate Peak Lumens	Voltage Range for Operation	Approximate Color Temperature	Bulb Shape	Bulb Diameter (Inches)	Maximum Overall Length (Inches)	Type Base	Lamps Per Carton	**Price Per Carton**	Lamps Per Case	**Price Per Case**
(Intermediate Peak)	M2B	5,500	15	9	550,000	3-45	5000° K	T-6½	25/32	1 13/16	Min. Bay No Pin	12	**$1.80**	144	**$21.60**
	M25B	8,500	15	14	530,000	3-45	6000° K	T-6½	13/16	1 13/16	Min. Bay No Pin	12	**2.16**	144	**25.92**
	AG-1B‡	5,500	15	15	330,000	3-45	6000° K	T-3¾	15/32	1 5/16	Glass Groove	12	**1.56**	144	**18.72**
M (Medium Peak)	Type 25B	9,000	20	14	560,000	3-45	6000° K	B-12	1½	2⅝	S. C. Bay	12	**2.16**	144	**25.92**
	Type 40B	14,000	20	17	750,000	3-45	6000° K	A-15	1⅞	4 1/16	Med.	8	**2.24**	120	**33.60**
	Type 2B	28,000	20	18	1,350,000	3-125	6000° K	A-19	2⅜	4¾	Med.	6	**1.92**	60	**19.20**
	PF/1B	4,000	20	8.5	360,000	3-30	6000° K	B-7	—	—	Baseless	8	**.96**	240	**28.80**
	M5B	8,500	20	14	530,000	3-45	6000° K	T-6½	13/16	1 13/16	Min. Bay No Pin	12	**2.16**	144	**25.92**
	PH/5B	9,400	20	13	680,000	3-45	6000° K	B-11	1⅜	2⅝	S. C. Bay	12	**2.16**	144	**25.92**
	PH/11B	15,000	20	13	900,000	3-45	6000° K	A-15	1⅞	4	Med.	8	**2.24**	120	**33.60**
	PH/22B	29,000	20	14	1,900,000	3-125	6000° K	A-19	2⅜	4¾	Med.	6	**1.92**	120	**38.40**
FP① (Focal Plane)	Type FP-26B	8,500	—	24	270,000	3-45	6000° K	B-12	1½	2⅝	S. C. Bay	12	**2.52**	144	**30.24**
	PH/6B	9,000	—	30	320,000	3-45	6000° K	B-11	1⅜	2⅝	S. C. Bay	12	**2.52**	144	**30.24**
	PH/31B	37,000	—	53	630,000	3-45	6000° K	A-21	2⅝	5⅜	Med.	6	**2.40**	60	**24.00**
S (Slow Peak)	Type 3B	50,000	30	18	2,250,000	3-125	6000° K	A-23	2⅞	5 5/16	Med.	1	**.37**	60	**22.20**
	PH/50B	46,000	30	17	2,300,000	3-125	6000° K	A-21	2⅝	4⅞	Med.	6	**2.22**	60	**22.20**

flashbulbs

SYLVANIA ZIRCONIUM FLASHBULBS—the **M-25 and M-25B.** M-25 is an outstanding achievement in flashbulb history. With the use of zirconium fill, Sylvania has condensed a light output of a Press 25 into a bulb the size of an M-2 with an M-2 base. Zirconium burns more efficiently; its light output is 150% of that emitted by a lamp of the same size using aluminum fill. It also creates far less pressure at the peak of the flash. This means that more light is packed in the Sylvania M-25 without increasing pressure on the glass. In addition, zirconium burns cleaner which results in less light loss. See chart for prices.

New!
SYLVANIA
M25
BLUE DOT
12 SUPERFLASH BULBS

FLASH LAMP GUIDE NUMBERS: FOR CLEAR LAMPS

(Some color films require a filter for proper light balance—See charts in filter section for complete data.)

Guide numbers are only guides; exposure is affected by variations in shutters, reflectors, film processing, etc.

To find the proper F/ number, divide the guide number by the distance in feet from lamp to subject. Consult film instruction sheet for additional data.

Lamp Type- Kelvin rating- Reflector	Shutter Speed	Tungsten Film Exposure Index 10 12 16	20 25 32	40 50 64	80 100 125	160 200 250	320 400 500	650 800 1000	1250 1600 2000	2500 3200 4000
AG-1† 3800° K ⑤*	1/30	50	75	110	150	200	300	420	600	850
	1/60	42	60	85	120	170	240	340	480	700
	1/125	38	55	75	110	150	220	300	440	600
	1/250	30	44	65	90	130	180	260	360	500
	1/500	26	36	50	75	100	150	200	300	420
M5 or M25 3800° K ④*	Up to 1/30th	90	130	180	260	360	500	750	1050	1450
	1/60th	80	120	170	240	340	460	650	950	1300
	1/125th	65	95	140	190	280	380	550	750	1100
	1/250th	50	75	110	150	220	300	420	600	850
	1/500th	40	60	80	120	160	240	320	460	650
M-2 3800° K ④**	Up to 1/60th	60	90	120	180	240	360	500	700	1000
SF or FM 3400° K ①‡	Up to 1/125th	40	55	80	110	160	220	320	460	650
	1/250th	36	50	75	100	150	200	300	420	600
	1/500th	28	40	55	80	110	160	220	320	440
Bantam 8 3800° K ①*	Up to 1/30th	65	95	130	190	260	380	550	750	1050
	1/60th	60	85	120	170	240	340	480	700	950
	1/125th	55	80	110	160	220	320	440	600	900
	1/250th	42	60	85	120	170	240	340	480	700
	1/500th	32	48	65	95	130	190	260	380	550
5 or 25 3800° K ①*	Up to 1/30th	95	140	200	280	400	550	800	1100	1600
	1/60th	90	130	180	260	360	500	750	1050	1450
	1/125th	75	110	160	220	320	440	650	900	1250
	1/250th	60	85	120	180	240	360	500	700	1000
	1/500th	46	65	90	130	190	260	380	550	750
	1/750th	34	50	70	100	140	200	280	400	550
Type O 3800° K ②*	Up to 1/30th	90	130	190	260	380	550	750	1050	1500
	1/60th	80	120	170	240	340	460	650	750	1350
	1/125th	70	100	140	200	280	400	550	800	1150
	1/250th	55	80	110	160	220	320	440	650	900
	1/500th	42	60	85	120	170	240	340	500	700
11 or 40 3800° K ②*	Up to 1/30th	100	150	200	300	420	600	850	1200	1650
	1/60th	90	130	180	260	360	500	750	1050	1450
	1/125th	75	110	160	220	320	440	600	900	1250
	1/250th	60	85	120	170	240	340	480	700	950
	1/500th	46	65	95	130	190	260	380	550	750
2 or 22 3800° K ②*	Up to 1/30th	150	220	300	420	600	850	1200	1700	2400
	1/60th	130	190	260	380	550	750	1050	1560	2150
	1/125th	110	160	220	320	460	650	900	1300	1850
	1/250th	60	85	120	170	240	340	480	700	950
	1/500th	46	65	95	130	190	260	380	550	750
3 or 50 3800° K ③*	Up to 1/30th	200	280	400	550	800	1150	1600	2250	3200
Focal Plane Lamps 6 or 26 3800° K ①*	Up to 1/30th	100	140	200	280	400	550	800	1150	1600
	1/125th	48	70	95	140	190	280	380	550	800
	1/250th	34	48	70	95	140	190	280	380	550
	1/500th	24	34	48	70	95	140	190	280	380
	1/1000th	17	24	34	48	70	95	140	190	280
Focal Plane Lamps 2A or 31 3800° K ②*	Up to 1/30th	140	200	300	420	600	850	1200	1700	2350
	1/125th	60	85	120	170	240	340	480	700	850
	1/250th	42	60	85	120	170	240	340	450	700
	1/500th	30	42	60	85	120	170	240	340	430
	1/1000th	20	30	42	60	85	120	170	240	340

** X or F synchronization only.
* Reflectors: Guide Numbers are based upon use of reflector numbers circled beneath each flashbulb name:
① 4-5 inch polished reflector ④ 3-inch polished reflector
② 6½-7½" polished reflector ⑤ 2-inch polished reflector
③ studio reflector
† F or X synchronization up to 1/60th, M at any shutter speeds.
‡ F synchronization only.

SYLVANIA M-2 FLASHBULBS are color-corrected, provide perfect light for "F" type films. Sylvania's exclusive M-2 glass stem cushions filament, avoids snapping or breaking. Provides marvelous flash results with all inexpensive box-type cameras.

SYLVANIA
SUPERFLASH
12 FLASHBULBS
M-2

SYLVANIA PRESS-25 FLASHBULB is powerful, bayonet-base flashbulb. Provides even, efficient light with standard or midget-type reflectors. Useful for candid, amateur, press-photography. Easily carried and handled. Closely controlled timing characteristics for synchronization with between-the-lens shutters. For low voltage flashing (operating range: 3-45 volts). For prices, see chart.

SYLVANIA
BLUE DOT
12 SUPERFLASH BULBS
PRESS 25

G-E #22 FLASHBULB is a powerful, screw-base bulb for extra coverage on high-speed shots. Excellent for covering conventions, banquets, sports events, sales meetings, etc. Used with larger reflectors on press-type cameras, or in studio reflectors. Operates on low voltage sources, or on line current up to 125 volts. For prices, see chart.

22
PHOTOFLASH
GENERAL ELECTRIC

GUIDE NUMBERS: BLUE BULBS WITH DAYLIGHT COLOR FILM

Guide numbers are only guides; exposure is affected by variations in shutters, reflectors, film, processing, etc.

To find the proper F/ number, divide the guide number by the distance in feet from lamp to subject. Consult film instruction sheets for additional data.

Lamp Type Kelvin rating Reflector	Shutter Speed	Film Exposure Index 10 12	16 20	25 32	50 64	100 125	160 200
AG - 1B† 6000° K ⑤*	1/30	38	50	65	90	120	150
	1/60	32	40	50	70	100	130
	1/125	28	34	44	60	85	110
	1/250	22	28	36	50	70	90
	1/500	18	24	30	42	60	75
M-5B or M-25B 6000° K ④*	Up to 1/30th	65	80	100	150	200	260
	1/60th	60	75	95	130	190	240
	1/125th	50	60	80	110	150	190
	1/1250th	38	48	60	85	120	150
	1/500th	28	36	46	65	90	120
M-2B 6000° K ④**	Up to 1/60th	42	55	70	95	140	170
5B or 25B 6000° K ①*	Up to 1/30th	65	80	100	150	200	260
	1/60th	60	75	95	130	190	240
	1/125th	50	65	85	120	160	200
	1/250th	40	50	65	90	130	160
	1/500th	30	40	50	70	100	120
11B or 40B 6000° K ②*	Up to 1/30th	70	85	110	150	220	280
	1/60th	60	75	95	140	190	240
	1/125th	50	65	80	120	160	200
	1/250th	40	50	65	90	130	160
	1/500th	30	38	50	70	95	120
2B or 22B 6000° K ②*	Up to 1/30th	100	130	160	220	320	400
	1/60th	85	110	140	200	280	360
	1/125th	75	95	120	170	240	300
	1/250th	60	75	95	130	190	240
	1/500th	44	55	75	100	140	180
3B or 50B 6000° K ③*	Up to 1/30th	130	170	220	300	420	550
Focal Plane Lamps 26B or 6B 6000° K ①*	Up to 1/30th	65	85	110	150	220	260
	1/125th	32	40	50	75	100	130
	1/250th	22	28	36	50	70	90
	1/500th	16	20	26	36	50	65
	1/1000th	11	14	18	26	36	46
31B 6000° K ②*	Up to 1/30th	100	130	160	220	300	380
	1/125th	36	42	50	80	110	160
	1/250th	24	30	40	60	75	110
	1/500th	18	22	32	44	55	80
	1/1000th	12	15	19	28	38	50

** X or F synchronization only.
* Reflectors: Guide Numbers are based upon use of reflector numbers circled beneath each flashbulb name:
① 4-5 inch polished reflector ④ 3-inch polished reflector
② 6½-7½" polished reflector ⑤ 2-inch polished reflector
③ studio reflector
† F or X synchronization up to 1/60th. M at any shutter speed.

G-E POWERMITE M5 FLASHBULB is the most versatile flashbulb in the world today. Has all the light output of the 4 times bigger #5, puts the same 20-millisecond synchronization. Can be used with any camera the #5 can be used with, but in addition, the PowerMite M5 can be used with many late model 35mm focal plane cameras.

PowerMite
one dozen
PowerMite M5
flashbulbs
with Zirconium foil

Guide numbers for the regular focal plane flashbulb—the #6—will serve also for the PowerMite M5. PowerMite M5B's are also available. For prices, see chart.

G-E #5 FLASHBULB is an efficient, compact bayonet-base bulb. Has uniform flash, precise timing characteristics. Small and rugged; can be conveniently carried and handled. Suitable for newspaper, candid, amateur use.

ONE DOZEN
GENERAL ELECTRIC
sure-fire
FLASH BULBS
5

Synchronizes with between-the-lens shutters. For low-voltage operation only. For prices, see chart.

flash batteries

BRIGHT STAR PHOTOFLASH BATTERIES are specially constructed to provide maximum life and light output for all flash units. These dependable batteries contain 20% more active materials to assure steady flow of current and excellent recuperative powers. Bright Star, the original Photoflash line, is favored by a vast majority of industrial, professional and press photographers and is available in the following sizes: #10P (size D), **25¢**, #11P (size C), **25¢**; #59P (size AA), **25¢**; #15P (size B-C), **$1.15**; #12P (Standard for B-C), **$1.50**; #22P (Slim size for B-C), **$1.50**; #45N (Slave unit battery), **$3.50**; #60N (90V for electronic flash), **$4.50**; #24P (240V for electronic flash), **$7.95**; #51P (510V for electronic flash), **$15.95**; #DF-2 Dual Flashtester, **$2.98**

BRIGHT STAR
Photo Flash Battery

"EVEREADY" LEAKPROOF PHOTOFLASH BATTERIES are newly designed to provide dependable high-peak current . . . longer! Superior construction allows more space for instant-power materials. "Eveready Leakproof Photoflash batteries are ideal for both rapid fire and extended service life. Extra-long shelf life insures sure-fire flash at all times.

815	1½v size AA	25¢
835	1½v size C	25¢
850	1½v size D	25¢
411	15v for B-C	$ 1.15
412	22½v for B-C	$ 1.50
413	30v for B-C	$ 1.75
504	15v for B-C	$ 1.15
505	22½v for B-C	$ 1.50
467	67½v for slave units	$ 3.50
482	45v for electronic flash	$ 3.50
489	225v for electronic flash	$ 9.95
490	90v for electronic flash	$ 4.50
491	240v for electronic flash	$ 7.95
492	225v for electronic flash	$ 7.95
497	510v for electronic flash	$15.95
635	1½v for electronic flash	25¢
726	4½v for electronic flash	$ 1.10

flashguards

KODAK FLASHGUARDS are made of clear plastic material that will not affect brilliance of flash. For Kodak Supermite, Kodak Midget, Brownie Starflash, Brownie Flash 20 and Kodak Generator and Pocket Flasholders. Ea., **65¢**; for 4″ and 5″ reflectors, ea., **95¢**

coils & cords

HEILAND ELECTRO-MATIC COILS are dependable, precision-made solenoids for press, miniature, and twin lens reflex cameras. **$16.50 to $24.95. HEILAND CONNECTING CORDS** come in complete range of types and sizes, including shutter, solenoid tripping, extension, etc. 15 inch to 12 feet, **$2.25** to **$8.95**

flashlamp adapters

KODAK ADAPTER NO. 68-L—Permits use of no. 5 or 25 and SM or SF flash lamps in flash holders designed for medium screw base flash lamps. Ea., **65¢**

SMITH-VICTOR MIDGET ADAPTERS—for converting medium base flash guns to use midget type lamps. #68 (Long Adapter) **75¢**. #78 (Short Adapter) **65¢**

MORSE FLASH LAMP ADAPTERS. No. 66 permits the use of screw-base flash bulbs in equipment designed for midget-size single-contact bayonet-base bulbs. No. 68 permits use of midget bayonet-base bulbs in equipment designed for screw-base bulbs. No. 681 performs same function, but longer neck centers midget bulbs in reflectors designed for larger screw-base bulbs. Prices #66, **45¢**, #68, **45¢**, #681, **60¢**

books

SUCCESSFUL FLASH PHOTOGRAPHY by L. A. Mannheim. How it works, how to use it for all kinds of effects. Bound in wear proof plastic binding. 160 pages, 139 illustrations, many in full color. **$1.95**

PETER GOWLAND'S GUIDE TO ELECTRONIC FLASH. This latest book by the renowned author and photographer covers the field of electronic flash in a novel approach. Discusses equipment, exposure, unique situations and problems. Fully illustrated in the inimitable Gowland manner. **$1.95**

LIGHTING EQUIPMENT

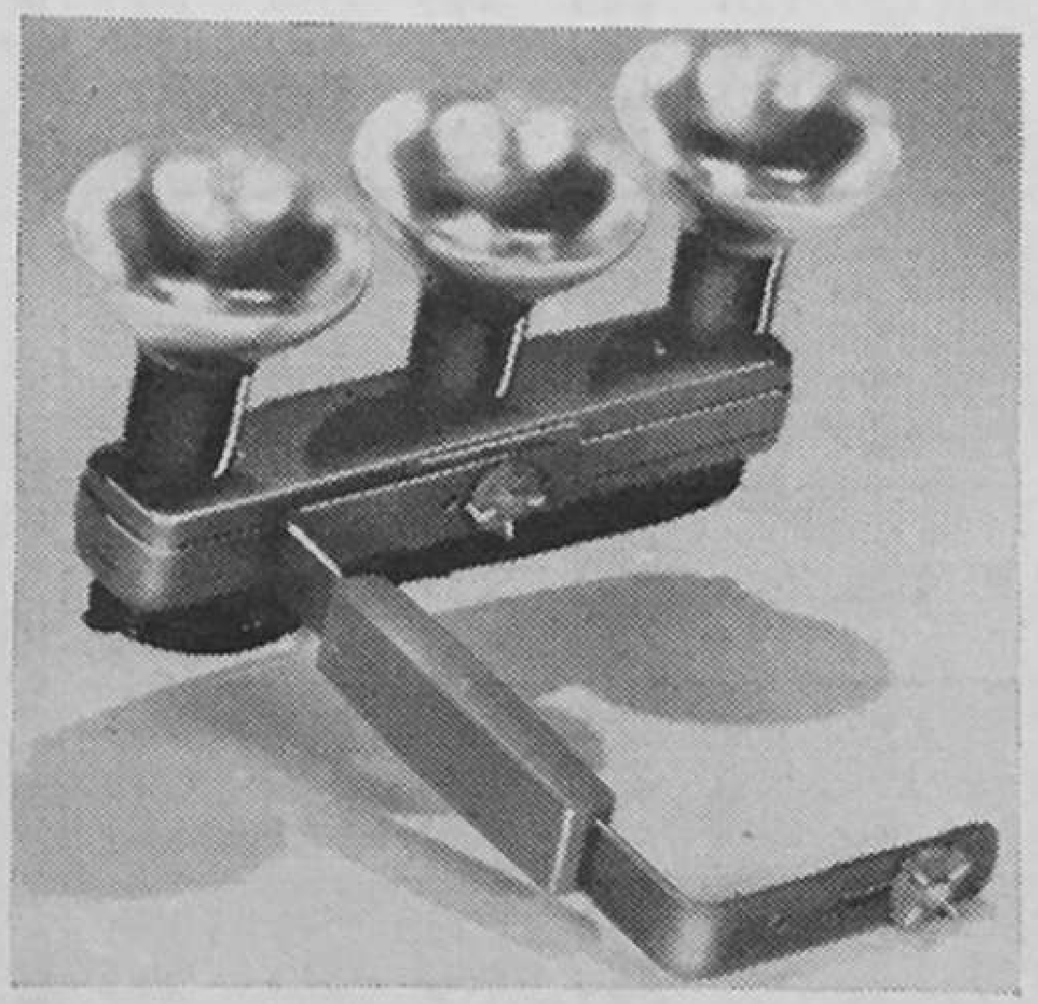
GENERAL LIGHTING

What type, combination, or class of lights do I need? Many of these factors influence you when faced with lighting problems.

Basically lighting equipment may be divided into two broad classes, floodlights and spotlights. From these broad classes there are many types, materials, surfaces, and combinations available—from incandescent lighting to complete voltage regulated, color temperature balanced systems. Call us for your lighting needs. We are no further away than your telephone.

bar lights

KODAK 3-LAMP MOVIE LIGHT (Model 1), provides over-the-camera light for most 8 and 16mm movie cameras . . . It is a rectangular metal box about 10-inches long with three lamp sockets for 300-watt or 375-watt reflector flood lamps and a "U" bracket for mounting the camera below the lamp.



A switch for operating the lamps, and two brackets on which to wind the power cord for compact storage are located on back of the box, **$7.95**

KODAK 4-LAMP MOVIE LIGHT (MODEL 1) For use on most 8 and 16mm movie cameras. Compact. Takes four standard 300-watt reflector flood lamps (not included). Lamps above camera. Two switches so two or four lights can be used. Has 10′ cord. UL approved. **$10.75**

ARKAY BOUNCE-RAY BAR LIGHT features tilting end lamps to permit bounce lighting; center lamps pitched 5° outward to eliminate hot-spot. Three light intensities offered by one-knob dimmer switch control. Attached exposure guide nameplate eliminates guesswork for correct exposure. Adjustable camera mounting screw fits all movie and still cameras; tripod stud fits all tripods; easy-grip plastic moulded handle for hand operation. UL and CSA approved. Supplied with ten-ft. heavy-duty cord and attractive black embossed corrugated carrying case, **$13.45.** With permanent deluxe case, **$19.95**

BROWNIE 2-LAMP MOVIE LIGHT—Permits indoor movie making at low cost. Accepts 2 300-watt or 375-watt reflector flood lamps. Standard tripod screw included to accept almost any movie camera. Has handle for holding light and camera. Has 8-foot cord. UL approved. **$5.95**

MAYFAIR PORTABLE MOVIE LIGHTS, for indoor color or black-&-white. Fit all cameras; can be hand-held or attached to camera or tripod. Heavy duty, lightweight construction. Ease of operation assures excellent results. U.L. approved; guaranteed for life. **MINI/VERSAL SERIES** features flexible arms; adjustable for maximum shadow control; each arm equipped with push-button-controlled click stop swivels; locks light in every shooting and storing position. Miniature size 375/R30 photoflood bulbs are used; three levels of light are provided. Supplied in space-saving Karry Karton. **Flexmaster**

COLOR TEMPERATURES OF VARIOUS LIGHT SOURCES

		Color Temperature K
80-watt Gas-Filled Tungsten Filament Lamp	General lighting	2800
100-watt Tungsten Filament Lamp		2865
500-watt Tungsten Filament Lamp		2950
1000-watt Tungsten Filament Lamp		3000
500-watt Projection Lamp		3175
G-E Studio Lamp, 3200° K		3200
G-E CP Lamps		3350
Photoflood Lamps		3400
Shredded Foil Photoflash Lamps		3800
G-E SM Lamp		3300
G-E Blue Flashlamps (all sizes)		6000*
Superflash Lamp (all sizes)		4000
G-E "Daylight" Flourescent Lamp		6500*
G-E White Fluorescent Lamp		3500*
White Flame Carbon Arc		5000*
High Intensity Sun Arc		5550*
Superflash Lamp 2B, 3B, OB and 40B		6000*

* Approximate equivalent visual value.

Courtesy of Photo-Lab-Index

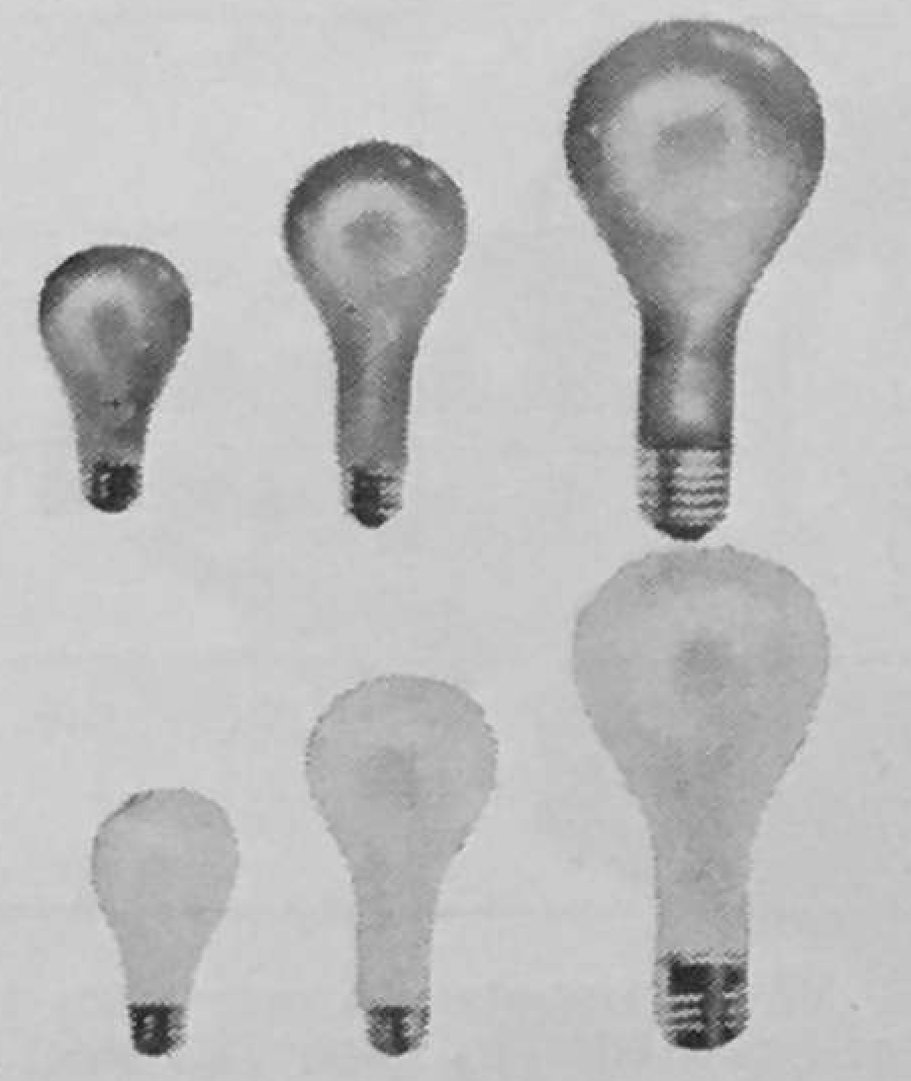
Mini/Versal, 4-light model; has pushbutton dim-brite switch; weighs 3 lbs, **$13.95. Flexolite "660" Mini/Versal,** 2-light model; on-off switch; 2½ lbs, **$9.95. Flexolite Deluxe Mini/Versal,** 2-light model; pushbutton dim-brite switch, 2½ lbs, **$10.95. Mini/Versal** permanent cases, **$5.99. STANDARD SERIES** features flexible arms; adjustable for maximum shadow control; provides three levels of light; supplied in Karry Karton. **Flexmaster Standard R/30,** 4-light model; uses miniature-size bulbs; has pushbutton dim-brite switch; 3½ lbs, **$11.95**

SMITH-VICTOR MODEL GL 43 BAR LIGHT is 15½" wide, designed for 300 or 325 watt lamps, two or four lamp operation, hand-held or tripod mounted. Winding clips hold cord. In metal case with 300 watt lamps, **$13.95**

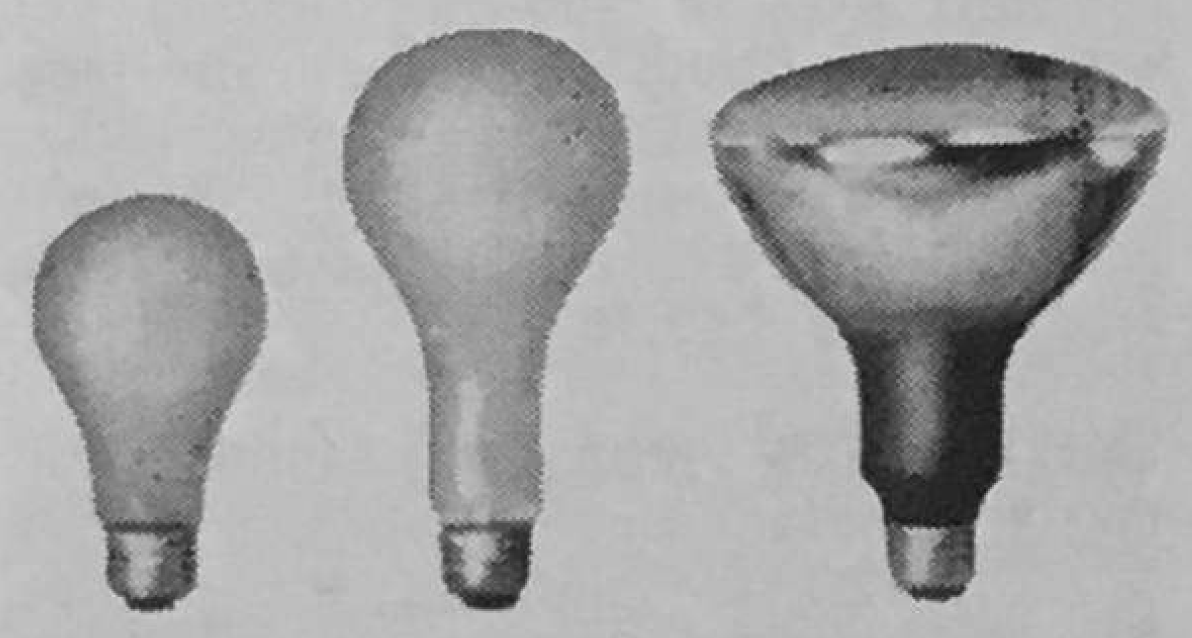
photo flood lamps

SYLVANIA REFLECTOR-TYPE SUPERFLOOD LAMPS feature built-in reflector. Available in 3200°-K or 3400°K models. In convenient "Handy-Pack" carrying case. Inside frosted. For prices, see chart.

SYLVANIA SUPERFLOOD LAMPS are available in sizes and types for most work. Color temperatures stay close to rating throughout life. For prices, see chart.



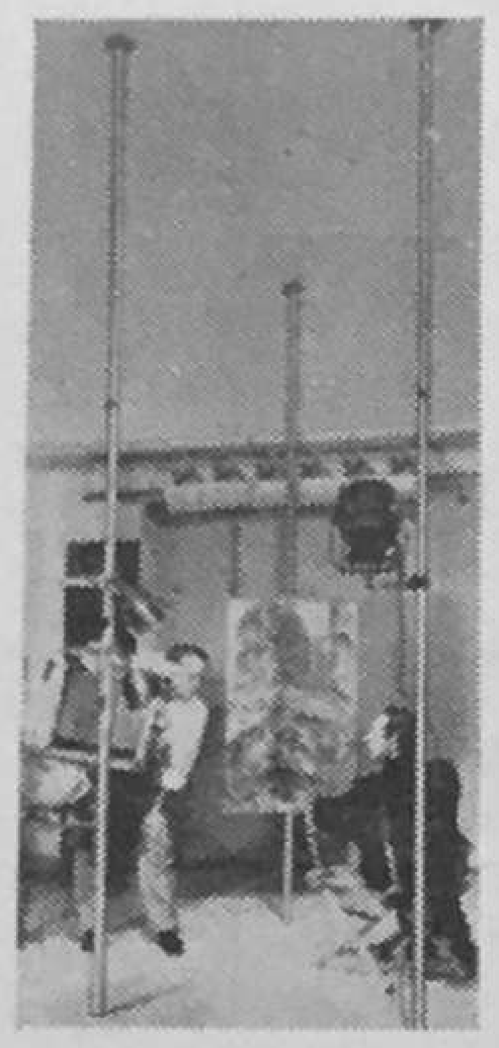
G-E PHOTOFLOOD LAMPS, guaranteeing the highest quality in manufacturing and engineering, are available in either the standard bulb sizes or in the built-in reflector types. Newest items in reflector photofloods are the 300 watt BEP and the 375 watt EBR which offer smaller, lighter, more compact medium beam photofloods for use in location shots. For prices, see chart.



MITE-T-LITE is a microminiature incandescent lamp manufactured by Sylvania Electric. The lamps feature long life, physical ruggedness and extremely low power consumption permitting operation directly from the output of a transistor. The lamps are available in either axial or single-ended lead design. Body diameter of the lamp is .045" maximum and overall length is .125" maximum. The filament is made from tungsten wire approx. .00025" diameter wound in a coil of about 40 turns. Price: 1-29 units, **$5** net ea.; 30-999 units, **$3.50** net ea. On quantities of 1000 units or more, request quotations.

light stands

POLECAT, a wonderful new way to support photographic lights; backgrounds and reflectors. A strong but featherweight telescoping aluminum column with a spring in the top. Adjust it to your ceiling, then just spring it in and out of place as you please. It can't be knocked over, and it takes up no more floor space than a silver dollar. (The top section of each telescoping Polecat is 1⅜" in diameter.) The lower section is 1½" in diameter. Model HD-7, adjustable for ceilings from 8½ to 11½', length lower section 8' (separates into two 4½' sections for easy transportation). **$24.95.** Model HD-9, adjustable for ceilings from 6½ to 9½', length lower section 6', **$17.95.** Model HD-11, adjustable for ceilings from 6½ to 11', length lower section 6', **$21.95.** Model HD-15, adjustable for ceilings from 8½ to 15', length lower section 8', **$24.45.** 2 Polecats and a crossbar will hold up any background. String an HD-32 cord set between 2 poles and throw a draping over it and you have a background for home portraits. HD-32 cord set, 20 ft., **$5.75.** HD-31 Polecat Boom Holder is 8 ft. long. Reaches the center of a 12' set. Raise or lower in a jiffy and swing it in a full circle. Its ⅜" and ½" studs easily support a 500 watt keg light or flood light, **$29.95**



GRAFLEX ALL PURPOSE STAND 10' Extended, 30¾" Closed. Has adjustable legs. Can be used as boom stand. **$20.95**

GROVER SENIOR STAND is well constructed, lightweight and portable. Folds to 32", extends to 7'9". Plated riser sections with aluminum leg braces that reduce wavering action when stand is extended. Rubber-tired ball bearing casters are attached to leg ends. Also available in bent leg form without casters for outdoor use, **$28.75**

PIC BOOM-LITE STAND instantly converts from a 5-section upright stand to a 3-section upright with a 2-section (4 foot) boom. No extra fittings required. Special casting allows adjustment of top two sections to form boom arm which can be swiveled, locked, in any position. Boom tilt adjustable by screw feed; unique tilting arrangement on one leg shifts center of gravity to permit increase of boom load capacity without adding counterweights. Aluminum alloy; telescopes to 27"; weighs 42-oz. Model 628, Heavy duty, closed 29", 56 oz., **$39.95**

PIC STANDARD aluminum light stand is made in 4 sections, extends from 22" to 7 feet. Tube sections are of seamless aluminum alloy, indicator stop marks on each section show maximum extension point, an arrest on top section prevents its falling through to bottom of stand. Legs are solid aluminum bars set in die cast brackets which enable legs to fold without strain. Knurled thumb screws. Approx. 1½ lbs. Model #122, **$9.95**

PIC UTILITY LIGHT STAND has 36" base-spread diameter to assure stability at maximum height. Casting brackets permit legs to fold easily without strain. Stop-feature prevents top section from falling through bottom. Made of heavy-gauge, seamless aluminum bar legs. Indicator stop marks on tube sections show maximum extension point. Solid brass, knurled thumbscrews, cadmium plated. No. 224, collapsed length 24", extended length 10', approximate weight 2 lbs., **$12.95**

PIC PROFESSIONAL STAND is the "big brother" of all PIC Stands. Sturdily built for use in commercial and industrial photography. Solid brass thumb screws can't be lost, are permanently locked in. Cable anchoring ring on base to prevent tipping. Top section is ½" diameter for extra strength. Model 428: "Light Duty," 5-section, 28" to 12', 3½ lbs. **$27.50.** #532: "Heavy Duty," 6-section, 32" to 15', 5 lbs. with slide studs on three lower sections for mounting additional lights. **$43.95.** PIC Adapter, ½" to ⅜", for accessories that fit standard ⅜" dia. tube sections, Model A-1, **$1.25**

PIC PORTABLE CASTER BASE STAND is a lightweight anodized aluminum folding base that rolls on rubber, ball-bearing swivel casters. A bottom locking plate locks the legs in open position and in closed position. Four sections vary from 1⅛" dia. to ¾" dia. top section. Reversible adapter makes stand usable for ¾", ½" and ⅜" dia. mounting accessories. Closed length: 32". Ext. length: 9'. Approx. wt.: 4 lbs. Price, **$34.50**

PIC FEATHERLITE STANDS are 5-section light stands of anodized, tempered aluminum. Positive stop on each section at maximum extension; sections can't pull apart. Model 4707: extends from 18" to 7', 1 lb., 10 oz., **$17.95.** Model 4709: 22" to 9', wt. 2 lbs., **$19.95.** Model 4711: 26" to 11', wt. 2 lbs., 6 oz., **$21.95**

PIC BACK-LITE STAND, Model BS-1, has special leg design to permit stand to be hidden behind slim objects. Also permits reflector to be used just above floor level. Extends from 14" to 46" and weighs 1 lb. 2 oz. Has 4 sections (⅜ thru ¾"). Anodized aluminum construction. **$11.95**

PIC BACKGROUND HOLDER & ADJUSTABLE LIGHT BAR may be used as a 6' wide background holder or folded to form circular "tent" around the subject. Adjustable horizontal arms will carry set of lights for copying. Studs are supplied on arms for Pic Light Tilters. Made of anodized aluminum. Model BH-1, 26" closed; 6' extended; wt. approx. 1½ lbs., **$11.95**

PIC LIGHT TILTER has many uses atop a light stand. Lock screw on tilter platform has standard thread (¼-20)

continued on next page

PHOTOFLOOD LAMPS

115-120 volts (Except as Noted)

	ASA Code	Type	Approx. Watts	Approx. Lumens	Average Life in Hours	Approx. Color Temp. K°	Base	Price Each
White	**BBA**	Ph/1 or 1	250	8,250	3	3400	Med.	**$ .31**
	EBV	Ph/2 or 2	500	17,000	6	3400	Med.	**.55**
	DXR	Ph/4 or 4	1000	31,000	10	3400	Mogul	**1.60**
Blue	**BCA**	Ph/B1 or B1	250	5,000	3	4800	Med.	**.45**
	EBW	Ph/B2 or B2	500	10,500	6	4800	Med.	**.85**
	DXT	Ph/B4 or B4	1000	19,200	10	4800	Mogul	**2.20**
	DKE	For B&W Portraiture	1000	9,400	300	5200	Mogul	**14.75**
Reflector Floods and Spots (Movie Lights)	**DXC**	Ph/Rfl2	500	4,500	6	3400	Med.	**1.75**
	DXB	Ph/Rsp2	500	50,000	6	3400	Med.	**1.85**
	BFC*	Ph/250R/Fl	250 (30v.)		¾		Med.	**3.25**
	BFJ**	Ph/750R	750		6		Med.	**4.50**
	DAN‡	R-20	200	10,500	4	3400	Med.	**1.35**
	BEP‡	Ph/300 or R-30	300	14,000	4	3400	Med.	**.93**
	EBR‡	Ph/375 or R-30	375	14,000	4	3400	Med.	**1.15**
	BFA‡	Ph/375/34R4 or R-34	375	18,000	4	3400	Med.	**1.25**
	DXH	R-32	375	13,900	15	3200	Med.	**2.20**

‡ Medium Beam.
* Portable Light Source for TV.
** Special Lamp for Intermittent Burning Only.

which can be used for attaching all threaded flash extensions. Tilter permits complete spherical rotation; a wingnut locks pan and tilt angle in the desired position. Threaded end of tilt handle accepts regular medium brass shell socket used with photoflood. (Cord feeds through handle for convenience). Aluminum parts are anodized. Model TL-1 **$4.50;** Model TL-2 **$2.50**

PIC BOUNCE LIGHT EXTENSION BL-1 is a 3-tube telescopic assembly, made of anodized Duraluminum, that extends a light head up to 30″ above the camera bracket or can be used at camera position. Closes to 12″. Weighs 5 oz. **$3.95**

PIC FIBRE CARRYING CASE, Model CS-32, is vulcanized and holds at least 6 Pic stands, plus tripod, cables and accessory equipment. Accommodates Pic Professional Heavy Duty Stands and Pic Portable Caster Base Stand. Has equipment tie-down straps. The inside dimensions are: 6x9x32″. **$22.95**

SMITH-VICTOR LIGHT STANDS. Model BR4 extends to 8½′, air cushions to 42″. Uprights locked in. Rolls easily and noiselessly on ball-bearing casters. 20″ base has mount for low-level lighting with adapter to fit ⅜″ or ½″ light mounts. For studio, spot and other heavy lighting equipment. **$45.** Model BR3, studio-type, has three-ball-bearing rollers for convenient light adjustment; elevates to 8 ft., folds for compact storage, weighs 12 lbs. **$25.** Model S5 is made of strong, lightweight aluminum, folds to 2′, extends to 10′, weighs 2½ lbs., **$19.95.** Model S4, elevates to 10½ ft., folds to 36″, has 4 telescoping sections, weighs 7 lbs., **$10.** Model S3, fully adjustable, all steel, has 3 telescoping sections, elevates to 8 ft., folds to 36″, weighs 5 lbs. 11 oz. **$7.75.** Model S-2, similar to above, has 2 telescoping sections, extends to 6½ ft. folds to 42″, 3 lbs. 2 oz. **$5**

SMITH-VICTOR MINI-BOOM provides 30″ overhang for direct overhead lighting. 44″ aluminum tube boom arm encloses plastic heat-resistant cord; has weighted ball handle for adjustment at any elevation. Socket is attached to arm by swivel with handle to permit easy angle adjustment. 660-watt socket, 15-ft. cord with switch. Complete with 6½-ft. telescoping stand. **$12**

TIMBER TOPPER is all metal sleeve 11½″ long which accommodates a dressed 2x3 without nails or screws. Internal depression spring and corrugated rubber tip hold timber and sleeve firmly in place wherever support post is required, ea., **$3.98;** Timber Topper sleeve, ea., **$2.25;** Tilt top, **$1.98;** Reversible Snapin Tip, **75¢**

clamp-on units

GROVER GRIP holds a light wherever space is tight. Supports lights, adapters, etc. on surfaces up to 8½″ wide or 4″ round, without the support of springs. Has ⅜″ studs for strobe, ½ and ⅝″ for lights and ¼x20 thread for tripod tops. Will support 20 lbs. on cine flats, door jambs, partitions, step ladders, desk drawers, etc. **$9.95.**

GATOR GRIP, the photographers handy helper, supports reflectors in restricted areas. Has spring loaded jaws that hold onto small round objects or flat surfaces. Padded grips will not mar desk or table tops; swivel socket holder may be adjusted to different tensions. Also available with solid ½″ round rod instead of socket holder and with double springs for spotlights, strobes etc. Gator Grip for spotlights, **$3.40.** With elbow fitting, **$4.90**

SMITH-VICTOR C-1 SPRING CLAMP for attaching lights to chairs, pipes, doors, or any other suitable surface. Rubber grips will not mar surfaces. **50¢**

SMITH-VICTOR CLAMP-ON UNIT. Thrift model has 10½″ diameter reflector, 7¼″ deep, frosted interior and exterior; positive swivel action; 6-ft. rubber cord, 660-watt nickel-plated socket; heat-proof, push-through switch; large nickel-plated spring clamps; accepts #1 or #2 photofloods. **$3.25**

SMITH-VICTOR R-L CLAMP-ON UNIT has clip-on socket and holder for reflector-type lamps. 660-watt push-through socket with heat-proof tips; Victor clamp and collar assembly with rubber-covered spring jaws. Adjustment handle permits easy movement. With 6-ft. rubber cord and plug **$2.25**

complete light units

COLORTRAN COMMERCIAL KIT provides all the essentials for commercial and portrait work packed in a single case. Includes Cine King Light with PAR 56 lamp, Groverlite Junior, Junior Converter, two senior stands, MiroFlector spot-flood, 2 MiroFlectors, 2 Gator Grips with socket and cords. Complete outfit, **$289. COLORTRAN MOTION PICTURE KIT** created for professional motion picture production. Provides enough lighting to satisfy the most critical cameraman, giving him a choice of key, fill and background illumination. Power is supplied by two Cinemaster converters, total capacity 80 amps, from 220 or 110 V primary lines. All lights and stands pack in 3 cases for easy transportation; converters with carrying handles separate. Includes: 1 Cine Master Chief Converter, 1 Cine Master Converter, 4 Cine Kings, 2 Super Kickers, 2 Kicker Lights, Senior stands, 2 Grover Grips, 3 cases. Less lamps, **$990**

GROVERLITE JUNIOR KIT provides triangular positioning of 3 globes to produce even distribution of overlapping lights with no fringe areas of hot spots. Heavily-wired procelain sockets; heavy-duty silver contact switches at rear of units for easy access. Usable with Colortran Converter, with Par 38 lamps produces a "cold" key light, with R-40 series lamps for "warm" fill light, and househulbs in Colortran microflectors. Usable also with photoflood reflectors, each light. **$39.75;** each stand. **$28.75;** Junior Converter, **$69.50.** Accessories available including nets, silks, etc. Single net, **$5.25;** double, **$6.25.** Junior Kit contains all the lighting equipment to do a thoroughly professional job and they are easily portable, includes 2 light heads, 2 superior stands, Junior Colortran Converter, packaged in suitcase, **$229. GROVERLITE SENIOR,** similar, has "barn doors" that fold over 5 globes for protection; 2 switches permit selection of "globes" to be used where full brilliance is unnecessary during setting up; heavy strap bracket supports unit, keeps it in balance in any position. **$48.75.** Senior Kit contains two senior lights, Senior Converter, 2 Senior stands, packaged in 2 suitcases, **$298.50.** All prices less lamps. With Cine Master Converter, **$398;** with Cine Master Chief Converter, **$459**

SMITH-VICTOR ADAPTA-LITES are a complete range of matched units from 5″ to 18″ in diameter, ready for clamp, base or stand mounting. Even light distribution, high reflection. **A5** special effect reflector, 5″ diameter, for background light, copy work, No. 1 or 250-watt lamps, 60° beam, **$3.75. A8-UL,** special effect light for backgrounds, copy, 18″ diameter, No. 2 or 500-watt lamps, 100° beam, **$4. A10-UL,** general purpose, 10″ diameter, 50° beam, for maximum efficiency with No. 1 or 250-watt lamps, **$4. A12-UL,** general purpose, 12″ diameter, 60° beam, for No. 2 or 500-watt lamps, **$6. AP12,** heavy-duty, general purpose, 12″ diameter, for No. 2 or 500-watt lamps, 15′ cord with switch, heavy swivel, nesting reflector, 60° beam, **$14.50. A16,** heavy-duty, general purpose, 16″ diameter, 60° beam, for No. 4 or 1,000-watt mogul base lamps, 15′ cord with switch, heavy swivel, nesting reflector, **$25. A-18,** 18″ diameter, 40° beam, for No. 4 or 1,000-watt lamps, 15′ cord with switch, **$25**

PERFORMANCE CHART OF LAMPS BOOSTED WITH COLORTRAN

		Input Current Amps.		Intensity at 10 Feet	
Lamp	Voltage Setting	220V Input	120V Input	(Foot Candles)	Coverage
PAR 64 500 W Wide Flood	120 160 185	2.5 4.0 4.9	4.7 7.4 9.1	115 300 450	4′ x 5′
PAR 64 500 W Medium Flood	120 160 185	2.5 4.0 4.9	4.7 7.4 9.1	370 870 1400	2′ x 4-½′
PAR 64 500 W Narrow Spot	120 160 185	2.5 4.0 4.9	4.7 7.4 9.1	1200 2720 3750	1-½′ x 2′
PAR 56 300 W Wide Flood	120 160 185	1.4 2.2 2.8	2.6 4.3 5.4	90 230 350	3′ x 7′
PAR 56 300 W Medium Flood	120 160 185	1.4 2.2 2.8	2.6 4.3 5.4	242 620 870	1-½′ x 3-½′
PAR 56 300 W Narrow Spot	120 160 185	1.4 2.2 2.8	2.6 4.3 5.4	880 2050 2950	1-½′ x 1-½′
R-60 1000 W Flood	120 160 185	4.7 7.4 9.1	8.7 13.7 16.7	166 345 490	7′ dia.
PAR 38 Flood	120 160 185	.61 1.11 1.35	1.1 2.02 2.5	37 93 150	5-½′ x 5′
R-60 750 W Flood	120 160 185	3.4 5.6 6.6	6.2 10. 12.1	145 335 490	5′ x 6′
R-60 500 W Flood	120 160 185	2.5 4.0 4.9	4.7 7.4 9.1	100 245 370	4′ x 6′
R-40 500 W Flood	120 160 185	2.5 4.0 4.9	4.7 7.4 9.1	34 82 125	10′ dia.
R-40 300 W Flood	120 160 185	1.4 2.2 2.8	2.6 4.3 5.4	26 67 99	8-½′ dia.
R-40 150 W Flood	120 160 185	0.7 1.1 1.4	1.3 2.0 2.5	12 31 49	8-½′ dia.
A-23 I. F. 150 W in M-5 Miroflector	120 160 185	0.7 1.1 1.4	1.3 2.0 2.5	30 67 113	4-½′ dia.

Notes:
1. For calibration purposes: A-23, 150-Watt tungsten lamps burn at 3200 Kelvin with 160 Volts, and at 3400 Kelvin with 185 Volts.
2. By definition, the area covered by a light is that area which has 50% or less fall off from the most intense area. It can be readily seen that the outer edges are further away from the light source than the center.

reflectors, flood & spots

COLORTRAN MIROFLECTOR is special reflector that combines light efficiency of reflector spots and floods with savings from use of less-expensive bulbs. Model M-4 has 4″ diameter, socket for #1 flood or 60-100 watt household lamp, **$2.65.** Model M-5, diameter 5″, 150-watt A-23 or 200-watt (except GE) lamp, clear bulb for spot or long throw, inside frosted for regular, **$2.65.** Model M-6, diameter 5⅝″, 150-watt and 200-watt GE, for all Line Lites in graphic arts, **$3.75**

SMITH-VICTOR MODELING LIGHT (formerly manufactured by Johnson-Ventlite Co.) #AP23 is designed for studios. Big 23″ reflector delivers an abundance of light directly in front of unit. Light falls off gradually but uniformly as reflector is turned through an arc of 60° from center. Deflector improves light distribution. 2-position, chromium plated yoke for high and low angle pictures. Reflector is frost-etched aluminum. Uses 1,000 and 1,500-watt mogul base lamps with adjustable socket for correct lamp positioning. Comes with 20′ cord and switch box. Without base or diffuser **$60.** #BR4 Roller Base **$45.** #D23 molded fiberglass diffuser, washable, sturdy **$11.50**

COLORTRAN CINE KING LIGHT—A new unit for high performance spot or flood lighting offering the ultimate in design! Equals the performance of a 5,000 watt conventional studio key light. Easy rotating main housing for 360° beam control. Insulated handle protects operator. 15 ft. cord with line switch provided. Lightweight barn doors easy to adjust, move independently of main housing beam rotation. Accommodates either the PAR 56 (300 W.) or PAR 64 (500 W) sealed beam aircraft-type lamps. Dimensions: diameter, 9″; depth, 10″; weight 5¼ lbs. Recommended for motion picture studio and location work, industrial and instrumentation photography. Less lamp, **$42.95.** Barn doors, **$11.95;** single scrim, **$2.80;** double scrim, **$3.40;** diffusion and gel ring, **$2.25.** Par 56 lamp, **$5.20;** Par 64 lamp, **$10.75**

COLORTRAN SUPER-KICKER LIGHT for a boost in power lighting. Powerful single source light, covers more area, gives greater illumination. Mogul socket and standard base adapter; attached 12′ cord with line switch. Designed for lamps up to R-60, 1000 watts. Dimensions: diameter, 9″; depth, 13″; weight, 3¾ lbs. Application: single close-up spot for motion pictures and still or spot photography. Less lamp, **$29.95;** barn doors, **$11.95;** gel holder, **$2.25.**

COLORTRAN KICKER LIGHT is versatile and lightweight. Capacity: a 300 or 500 watt, R-40 mogul base spot or flood lamp. 150 or 200 watt household lamp in M-6 MiroFlector using standard base adapter. Dimensions: diameter, 7″; depth, 8½″; Weight, 2½ lbs. Less lamp, **$24.50;** barn doors, **$8.90;** gel holder, **$2.10;** MiroFlector, **$3.75**

GROVERLITE SUPERIOR SIX SCOOP is a light which is available in three types; Standard Superior Six for all around studio work. Used with clear bulbs in Miroflectors for distance. Used with inside frost for flood work. Produces equivalent to 4000 watts in conjunction with Colortran, **$57.** GROVERLITE SUPERIOR SINGLE for mogul. Accommodates one 750 to 2000 watt lamp for television and high-bay lighting **$44**

MODELING LAMPS

A.S.A. CODE	TYPE	Life in Hours	Price each
(EAD)	PH/60T6½/1	100	$2.10
(EAK)	PH/100T6½	50	3.50

McALISTER BABY KEGLITE, standard light for motion picture and still photography. Easy focusing. True light owing to crystal clear heat resisting lens, with fused coating to prevent flare. Heavy duty version with switch in housing, carrying handle, trunion positioning and cast diffusion holders, **$80. Accessories:** Stand, **$36.50;** Foco Spot, **$67.80;** Barn Doors 2 Way, **$10.50;** Barn Doors 4 Way, **$17.** Scrims: Single, **$1.50;** Double, **$2;** Snoots (set of three), **$18**

McALISTER 5 UNIT STRIPLIGHT uses five 1000W lamps; spreads soft diffused light evenly. Versatile suspension by center ring or with end rings. Sets at any angle, **$141. Accessory:** Diffuser frame, **$14**

McALISTER INDIRECT FLOOD LIGHT for overhead lighting of large areas; produces even, shadowless field and increases light efficiency. Weighs only 46 pounds. For color or black and white TV or photography; uses 6 1000W lamps, frost silver bowl, **$320. Accessory:** Safety Screen Diffusion Holder, **$45**

McALISTER JUNIOR SPOT LIGHT. Maximum efficiency through use of fresnel lens of crystal clear heat resisting glass, with fused coating to prevent flare. Fully spring-loaded socket for fast globe changes and extension of globe life. Easy focusing. Patented half stage plug, **$125. Accessories:** Stand, **$44.77;** Barn Door 2 Way, **$17.40;** Barn Door 4 Way, **$27.** All metal Scrims: Single, **$2.50;** Double, **$3.35;** Snoots (set of three) **$27**

McALISTER SENIOR SPOT LIGHT. Maximum efficiency through use of fresnel lens of crystal clear heat resisting glass, with fused coating to prevent flare. Patented McAlister socket for globe and time saving. Unique foolproof focusing mechanism. Perfectly balanced for ease of operation. **$250. Accessories:** Stand, **$60;** Barn Doors 2 Way, **$30;** Barn Doors 4 Way, **$46;** Scrims: Single, **$4.20;** Double, **$4.75;** Snoots (set of three), **$37.50**

McALISTER SINGLE BROAD LIGHT produces a smooth, diffused light, flood or fill, softens unwanted shadows. 500-750 watts. Permanent side swivel-doors block side flare, protect glass diffuser. Safety-lock stand, single-riser, 3-leg, folding type. Supports 250 lbs. **$98.50**

McALISTER SKY PAN for illumination of large areas; can be mounted on stand or hanging. Equipped with McAlister patented socket for Globe saving. Can be used with 5000W or 2000W Globe; with Skirt and diffusion holder for Spun Glass, Gelatines and Scrims, **$115. Accessories:** Stand, **$46.50;** Skirt (Diffusion Holder), **$27.50**

PHOTOGENIC LITTLE GIANT INCANDESCENT SPOTLIGHT has 4½″ heat resisting Fresnel lens and Alzak mirror reflector. Uses 200W T-10 lamp, **$72**

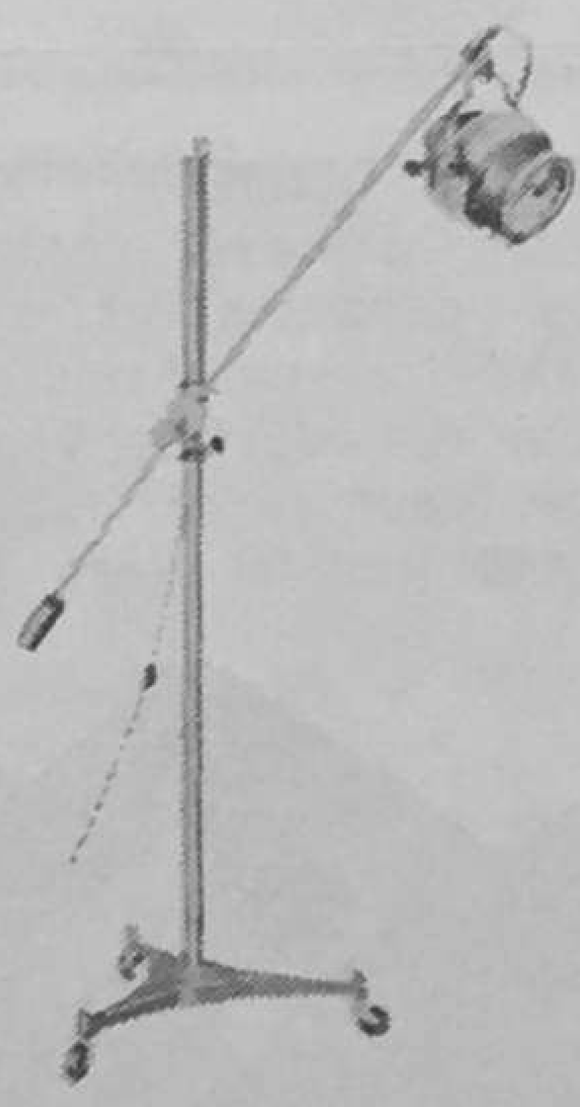
PHOTOGENIC MINISPOT SPOTLIGHT is small but powerful all-purpose spotlight. Made entirely of aluminum. Can be focused from a small, intense spot to a broad flood of smooth light. Ideal for highlighting portrait subjects, etc. Available with table top base or with ⅜″ adapter for mounting on stand. Uses 100 or 150W T-8 lamps, **$21.60;** w/table top base, **$22.05**

PHOTOGENIC SUNSPOT can be tilted, turned or swiveled to any conceivable angle to direct light into difficult places on commercial set-ups. Light is controlled in graduated volume with an iris diaphragm. Uses No. 1 or No. 2 Photoflood, 500W 3200°K or T-20 Mazda lamp. A simple adjustment centers any of these lamps with the reflector, **$72**

PHOTOGENIC INCANDESCENT STUDIO MODELING LIGHT has adjustable focusing socket for any pear-shaped Incandescent lamp from 300 to 1500 watts, also No. 4 Photoflood lamps. Adjustable light deflector provides ventilation around lamp, may be adjusted to provide hard or soft lighting effects. Raises from 36″ to approx. 10′, positive locking height adjustment, **$98.55;** Barndoor w/diffuser, **$38.05**

PHOTOGENIC CP-15 INCANDESCENT FLOODLIGHT accommodates all mogul base pear shaped lamps. 300 watts to 1500 watts or No. 4 Photoflood lamps. Raises over 9′ high. **$97.20;** Diffuser, **$11.25**

PHOTOGENIC VARIBEAM BOOM SPOTLIGHT #7615 uses either 500 or 750W medium bipost lamps. Provided with superior ventilating features. Can be tilted, rotated and manipulated in any conceivable angle on perfectly counterbalanced boom arm which raises and lowers with perfect ease from floor to approximately 10′ high, **$231.30;** Rotatable Barndoors, **$18.25;** Snoots, (3), **$8.37**



PHOTOGENIC F-750 VARIBEAM INCANDESCENT SPOTLIGHT has specially designed 6″ Fresnel Lens and provides a clean field of illumination throughout the range that it can be focused, from a small spot to a large flood of illumination. Uses 500 or 750W T-20 or T-24 lamps, **$91.15**

PHOTOGENIC INCANDESCENT BACKGROUND LIGHT was developed primarily for use where a broad flood of light on background is desired. Adjustable 5½″ Alzak reflector can be quickly removed for lighting background and creating atmosphere, **$22.35**

PHOTOGENIC BACKGROUND LIGHTS: No. 6731 uses No. 1 photoflood, No. 6735 uses No. 2 photoflood. Reflector is 5½″ wide and can be easily concealed behind the subject. It can be used either on the stand or directly on the base. #6731, **$22.25;** #6735, **$23.60**

power controls

CBC MULTIPLE OUTLET BOXES model consists of 6 outlets controlled by single switch, pilot light, and 10-ft. cord. 15-amp., 115-volt rating. **$6.75.** Same chromed, white outlets, **$7.50.** Model MO-4, four outlets, no switch or light, **$3.75.** Model MO-3, three outlets and switch, **$3.90.** Model MO-GD, six outlets with switch and pilot light. 3-wire grounding type, with heavy duty HSJ line cord. **$8.50.** All models have fused plug with two 15-amp fuses.

CBC SELECTOR SWITCH Model SS provides four independently controlled outlets in drawn metal case with mounting lugs and 10-ft. neoprene cord and fused plug. All units rated at 15 amps, 115 volts, have fused plug containing two 15 amp fuses. **$6.75.** Same chromed (Model SS-CR) **$7.50.** Model SS-2, two independently-controlled outlets, cord, **$4.15**

COLORTRAN CINEMASTER CONVERTER is a heavy duty unit which permits the operator to control the color temperature and intensity of photographic illumination. 7 position tap switch controls all lamps. Circuit-breaker main switch combines safety with convenience. Dimensions: 12x8½x9″, weight 48 lbs. Lamp capacity: at 3200° K, five 500 W lamps from 120 V input, 11 from 230 V input. At 3400° K, four 500 W lamps from 120 V input, 7 lamps from 230, **$209.50. CINE MASTER JR. CONVERTER** features light weight, small size, yet has all the versatility of larger units. Weighs 21 lbs., measures 9x8x6″. Can be set to match the input from 110 & 220 V lines, matching available voltages from 105 to 205 volts. Direct reading meter allows operator to control intensity and color temperature of lights being used. Capacity is three 500 W lamps at 110 Volts, or five 500 W lamps at 220 Volts, **$148. CINEMASTER CHIEF CONVERTER** for individual light control. Heavy duty, four 7-position tap switches permit varying individual lights or groups to desired intensity & color temperature. Handles maximum loads with complete control flexibility, **$269.50**

COLORTRAN JUNIOR MODEL CONVERTER increases the efficiency of ordinary household lighting so that it can be used for either black-&-white or color photography . . . without overloading circuits or blowing fuses. Six heavy-duty outlets deliver 3200° or 3400° Kelvin at the flick of a switch. Input capacity 1500-watts. Heavy input cord allows free flow of current without heating. Weighs only 20 lbs., measures 9x8x6″, **$69.50.** SENIOR MODEL, similar, but has input capacity of 2500-watts; panel safety light tells when unit is "on"; portable, weighs only 35 lbs., has heavy folding handle; case has protective "feet"; dimensions 8x10x6″, **$108.50**

SOLA TRANSFORMERS are static magnetic voltage regulators designed to provide a constant output voltage that is unaffected by changes in input voltage. Provide uniform light level from printing and studio flood lamps. CV type comes with output capacity from 15 to 10,000 volt-amps, range in price from **$15** to **$925**

photomicrographic lamp

PHOTOMICROGRAPHIC LAMP, the **"ZIRCONARC."** For microscopy, macrophotography, photomicrography and microprojection. The closest approach to a point source of light. Electrodes are fixed and sealed within a glass bulb. Seven-element coated condenser optical system, 16.5mm focal length. Optical elements are rigidly mounted in a sliding

continued on next page

barrel for focusing within the external housing. Detachable lens for high power microsopy. Uses 110-volts AC. **$325.** Accessories: type 32-1-7 (40-watt) bulb to fit above lamp, **$46.64**; filter adapter, Series VI, type 321-11, **$2**; filters, size 41.2mm diameter, type 321-15, **$3.50.** Step-down transformer, primary, 220/240 volts, secondary 110/120 volts, AC 50/60 cycles, **$20**

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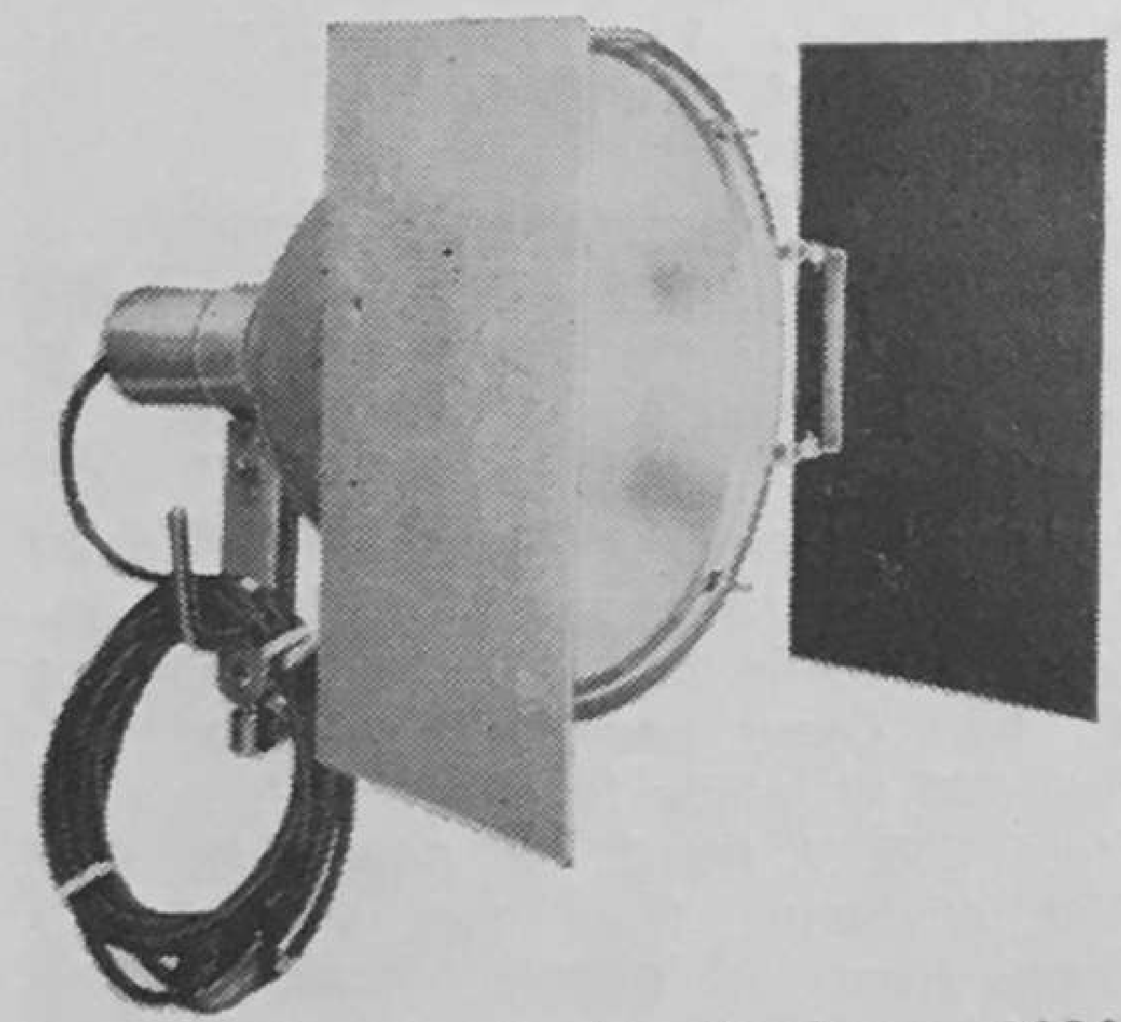
barn doors

SMITH-VICTOR BARN DOORS are for direction and control of light from reflectors. Made of sturdy aluminum. 360° rotation. Easy to attach without tools. BD8 to fit Smith-Victor Reflector A8, **$7.** BD12 to fit A12 and AP12 (illustrated.), **$9.** BD16 to fit A16, **$15.** BD16 to fit A18, **$15.** BD23 to fit A23, **$25** **SMITH-VICTOR DIFFUSING SCREENS** have all metal frames, hold replaceable diffuser, increase area of light, reduce troublesome shadows. Spring clip holds screen to reflector rim. **D10,** 10″, **$1.75,** refill, **65¢. D12,** 12″, **$2,** refill, **65¢. D16,** 16″, or **D18,** 18″, **$3.95,** refill, **$1. BARN DOOR DIFFUSER SCREENS,** made of special tracing cloth for long life and even diffusion. **D80,** for BD8 barn doors, **$2; D120,** for **BD12, $2.50; D160,** for **BD16,** or **D180** for **BD18, $3**



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book

LIGHTING FOR PHOTOGRAPHY by W. Nurnberg. A standard text on illumination. Where to put the lights when taking all sorts of subjects. Techniques of artificial lighting for practically every type of subject. In use for many years as the guide to all lighting problems. 176 pages, 286 illustrations. **$4.50**

EXPOSURE INSTRUMENTS

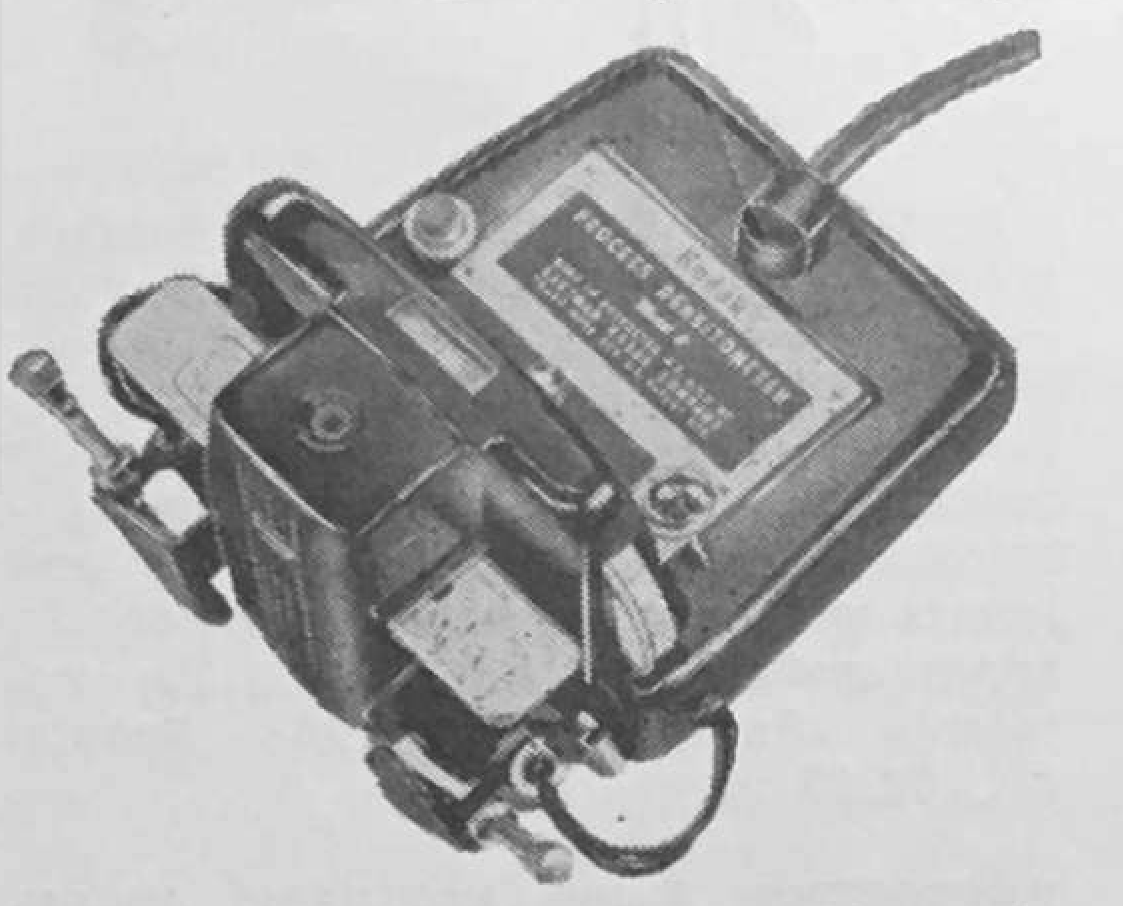
analyzers

KODAK COLOR DENSITOMETER MODEL 1 accurately measures density of negatives and transparencies. Useful in making color prints, separation negatives, etc. Also used for black and white, making characteristic curves, etc. Features built-in filters for analyzing red, green and blue color film densities. Zeroing knob; clear, easily-read scales; on-off and brightness control switches. Reads densities to 3.0 in gradations of 0.05; up to 4.0 with inexpensive Kodak Wratten neutral density filter. Uses two 6-volt .25 amp. T¾ miniature bayonet-base bulbs. 110 to 125-volt, 50-60 cycle AC. **$79.50.**

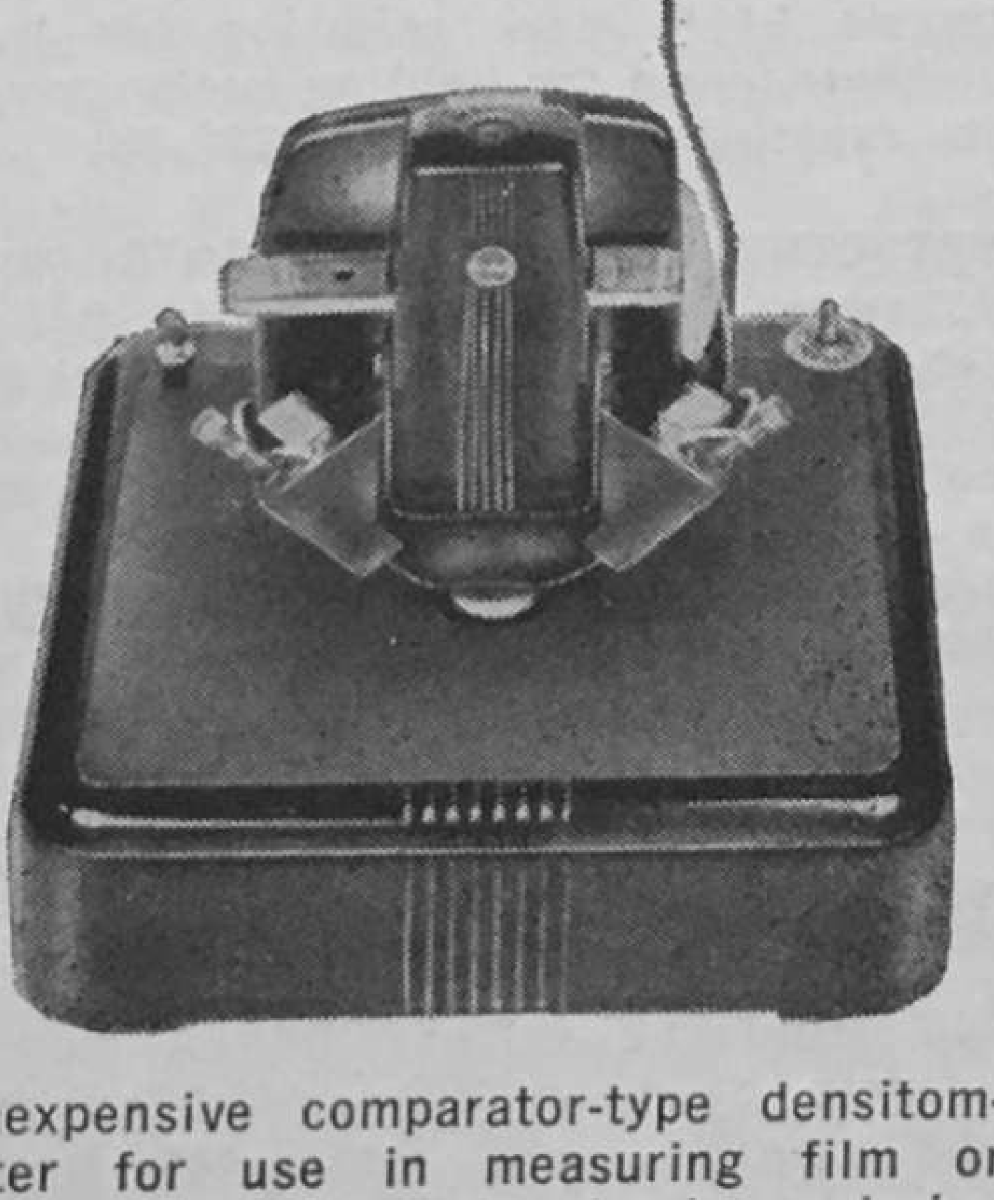
EASTMAN DENSITOMETER MODEL 1A gives more precise readings of smaller areas than the Kodak Color Densitometer Model 1, above. Features segment readings less than 1.25mm of black-&-white negatives. **$112**

LEKTRA DENSI-COLOR ANALYZER, PTM-6 reads 3 colors simultaneously. Scans each color, and indicates proper CC filters to use for correct color balance. Indicates proper aperture opening of enlarger. Indicates time of exposure for whitelight or tri-color. Makes exposure if desired with available built-in timers (or data may be transcribed on envelope for printing elsewhere). Gives a quicker, better color print on first exposure. **MODEL PTM-6: MARK I** with one emulsion factor channel, **$1,560; MARK II** with three emulsion factor channels, **$1,800**

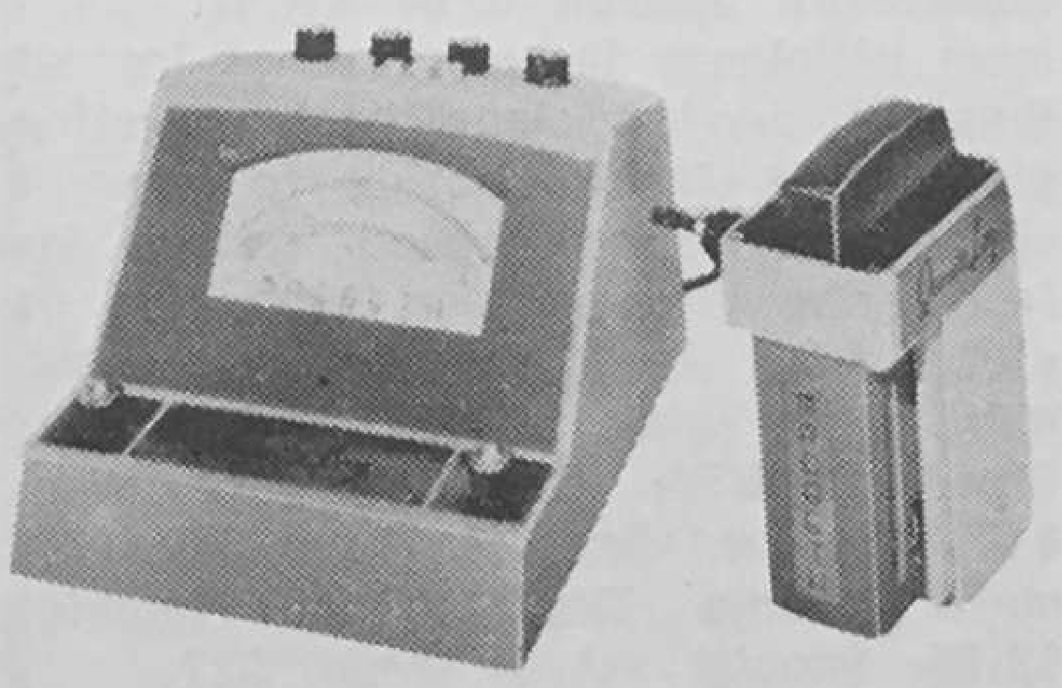
KODAK PROCESS DENSITOMETER, MODEL 2 provides increased versatility in reading the densities of negatives, positives, and transparencies for photo-mechanical reproduction Visual comparator type, capable of transmission, reflection and ground glass readings. Has variable illumination, quick reading of densities, adjustable illuminators, easy filter changing, light integrating cap, and portable photometer, **$290. Kodak Photometer and Transformer Model 2,** supplied with Densitometer, also available as a separate unit for making reflection and ground glass readings, **$125**



KODAK REFLECTION-TRANSMISSION COLOR DENSITOMETER MODEL RT is an inexpensive comparator-type densitometer for use in measuring film or transparency densities by transmission and print densities by reflection. Can be used for reading density on black-and-white materials. Color filter slide provided to facilitate reading color densities. Has rotable density wedge. **$104**



MACBETH QUANTALOG DENSITOMETER is convenient precision tool for use in all photographic aspects of the Graphic Arts Industry. Is a building block densitometer consisting of a photometer, Model QP-10 to which can be attached either Transmission Attachment, QT-20 or Reflection Attachments QR-30. Transmission Densitiometer (QP-10 + QT-20) is used for reading color transparencies or negatives to predetermine exposures of separation positives or negatives. Black-and-white density measurements are then made on the separation—continuous tone or half tone. Reflection Densitometer (QP-10 + QR-30) is used to determine exposures of original colored reflection copy (painting, color print, etc.). Additional use is measuring ink film thickness during printing production on run. Direct reading 0 to 4.0 meter scale. (Optical density scale in black, transmission and reflection scale in red.) Accuracy ±.02 density units. Highly stable dynode feed back photomultiplier circuit. Maximum range 0 to 6-7 log cycles without filters. Cantilever type measuring arm on transmission attachments accommodates samples of different thickness. **QUANTALOG PHOTOMETER QP-10, $575; Transmission Attachment QT-20, $295; Reflection Attachments QR-30, $250**



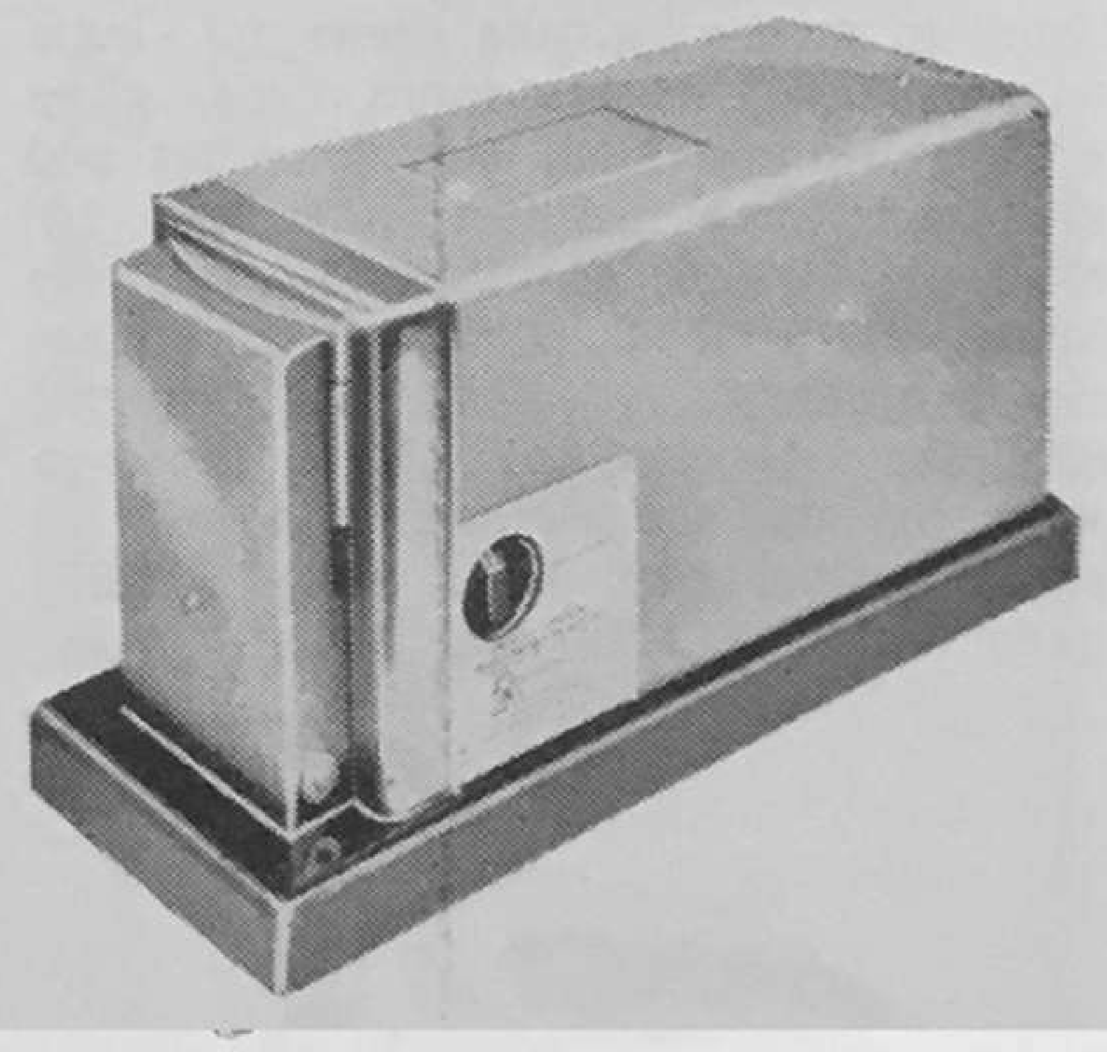
LEKTRA COLOR DENSI-METER MODEL PTM-8 is engineered for accuracy, easy to use, easy to read. Specially designed for color analysis and exposure it will perform a complete analysis of an unknown negative prior to making Ektacolor (type "C") prints. Indicates accurately the filters required. Indicates exact exposure time in seconds, provides for storage of three different color standards. Provides for black & white exposure, so that Panalure prints or any black & white may be made without disturbing the color standards. Sufficiently sensitive to analyze any printable negative. Photo tube protected from ambient light by shutter, colored meter lights automatically indicate which color is being read by optical head. Variable scanning area for spot readings, selective or total integration. Power consumption 100W, **$595**

MACBETH QUANTALOG EP-1000 PHOTOGRAPHIC COLOR ANALYZER is designed for "on easel" analysis of color negatives. With it you can: (1) Avoid costly test prints and remakes. (2) Produce your test print electronically. Has two sets of attenuators, one for each color filter and exposure time. With these it is possible to index instrument to two different types of color negative criteria. Designed to convert for easy use with Transmission Attachment, or Reflection Attachment, **$645. MODEL ET-20 TRANSMISSION ATTACHMENT** provides finest transmission densitometer for "off easel" photographic color negative analysis or as process control densitometer. When used as Transmission Densitometer, QuantaLog meets ASA diffuse density requirements. To convert simply remove mirror base from probe and mount probe on ET-20 Measuring Arm. Voltage regulator recommended to stabilize the ET-20 optical system light source, **$295. MODEL ER-30 REFLECTION ATTACHMENT** provides finest reflection densitometer for analysis of reflected copy, (Photographic color prints and/or test strips). Reflection Attachment is portable, features high quality "annular ring" optics, meets ASE requirements for measurements of diffuse reflection density. With black and white reflection tile for easy calibration, **$250. Model EA-40 External Attenuator** accessory when connected to EP-1000 Photometer provides user with four additional sets of attenuators for indexing to several standard negatives and/or exposure times. Permits fourth attenuator bank to be used for setting of several exposure times for color or black and white work as an alternative. Designed to mount on wall or can be set up as free standing unit. **$125. TWO PROBE LEGS (KIT)** converts EP-1000 probe for use on camera ground glass and/or contact printers, **$3.75**

◆

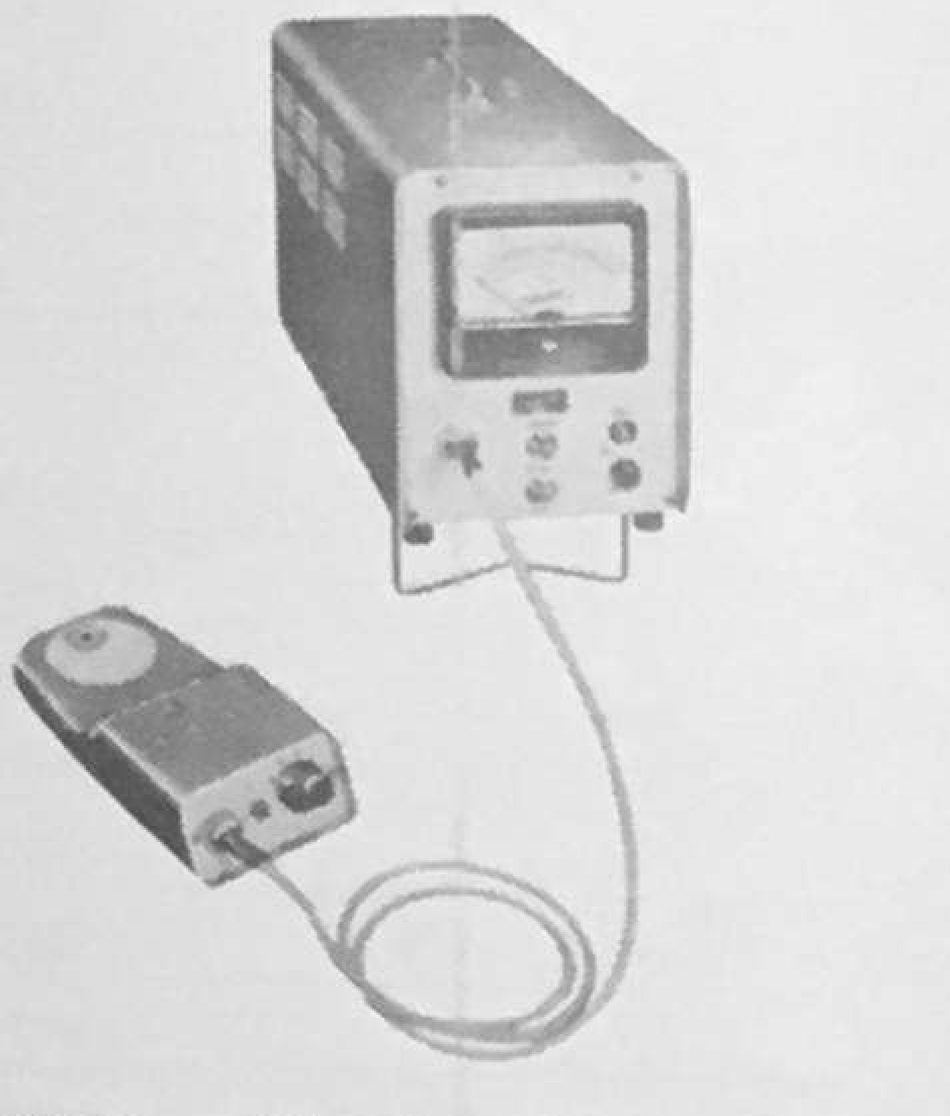
sensitometers

KODAK PROCESS CONTROL SENSITOMETER, Model 101, provides repeatable exposures on either black-&-white or color photographic materials for process control purposes. Unit is enclosed in a sheet-metal housing with over-all dimensions of 8x12x22 inches. **$975.**



KODAK COLOR CORRECTION FILTER, No. 308, for use in the Kodak Process Control Sensitometer. For exposing Kodak Ektachrome and Ektacolor Paper. **$23.50. No. 309,** for exposing Kodak Ektachrome Film, Type F, and Kodacolor Film. **$23.50. KODAK SENSITOMETRIC WEDGE, No. 2,** intended for exposing control strips on Verichrome Pan Film, to give strips similar to the Kodak Film Developer Test Strips. **$41.25. No. 3,** for exposing Kodak Ektacolor and Ektachrome Paper. Densities after processing can be read by Model RT or other reflection densitometers. **$41.25. KODAK COLOR FILTER TRANSPARENCY,** for making test prints on Kodak Ektachrome Paper, which indicate the direction in which color correction may be required. Consists of a composite transparency divided into sections, each of which contains a different combination of color correction filters. Transparency also includes two neutral density step wedges without color correction filters. **$33.15**

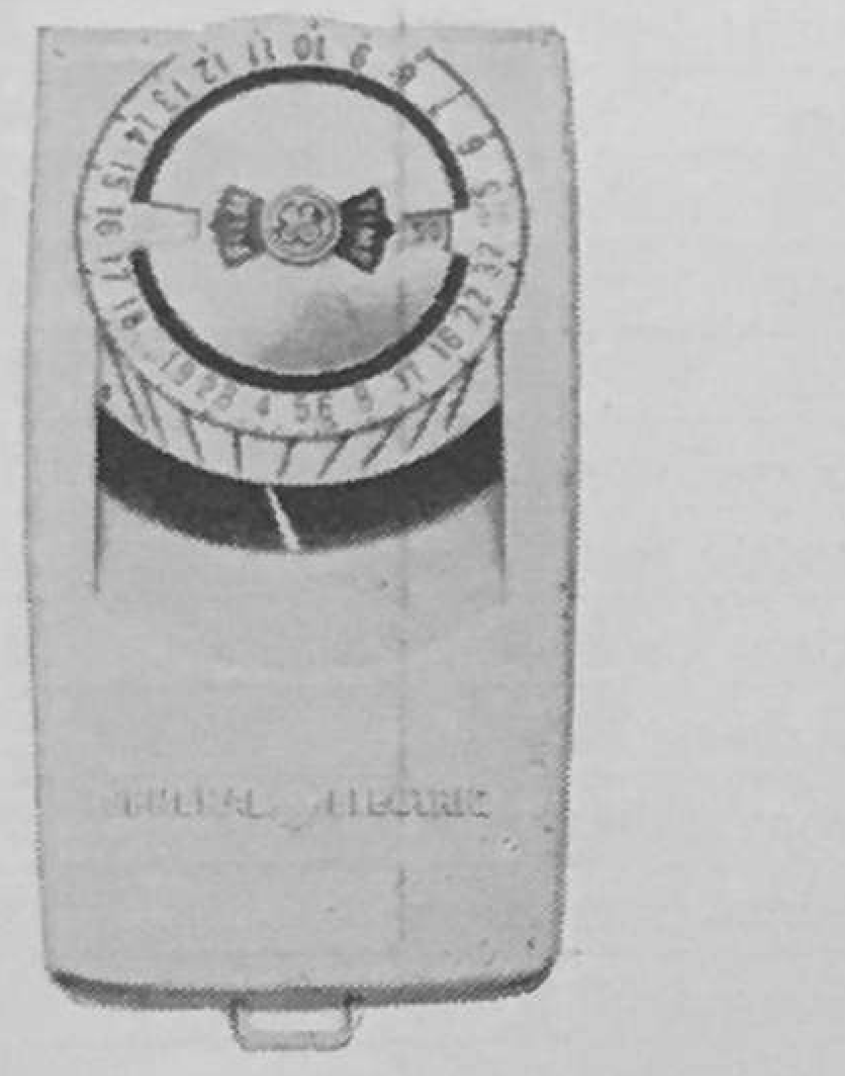
WELCH DENSICHRONS are available in two types. Reflection Densichron for optical density readings and Reflectometer for percent reflectance readings. Using the patented Welch Magnephot System the Densichrons measure ink film thickness, measure paper brightness, determine highlight and shadow density and range of B & W or color separation negatives. In photography they are also used for on or off easel readings and as transmission or reflection densitometers. Three basic types of amplifiers are the heart of the system. TYPE 1 has .01 foot-candle full-scale deflection and 20 microlumens; TYPE 2 has .05 foot-candle full-scale deflection and 10 microlumens and TYPE 3 has full-scale deflection of .001 and 2 microlumens. These types can use either Red or Blue sensitive probes & with type 1, the Reflection Head may be used. **DENSICHRON; Series 3830;** is available with Blue or Red Probe, Log or linear scale, **$250 & $265. DENSICHRON 2:**



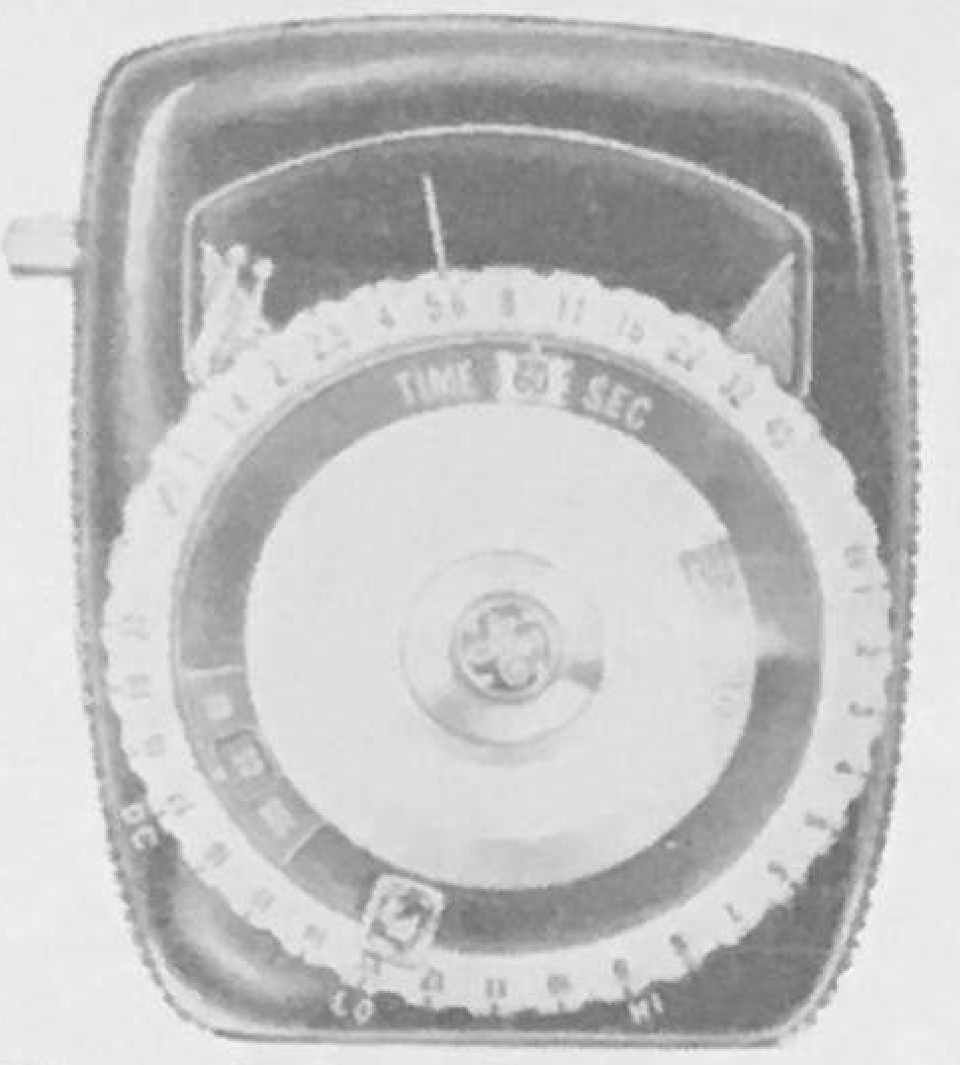
Series 3850; with Blue Probe & Log Scale, **$385;** with special color Compensating Meter, **$397.50. DENSICHRON 10: Series 3840:** with Blue Probe and choice of Log, Linear or CC scale, **$435. TRANSMISSION DENSITOMETERS: Series 3835, $450 to $575; Series 3855, $585 to $660. DUPLEX COLOR DENSITOMETER: Series 3858, $3,250**

exposure meters

GE PR-35 MASCOT II is a direct reading meter for stills and movies, includes settings for new exposure value (EV) cameras. Small, convenient, can be operated with one hand. Film speed range, ASA 10 to 400; exposure value markings, from 5 to 18; f/stops, from f/1.9 to f/32; movie settings for 16, 24 and 48 fps; shutter speed settings from 1 to 1/100 sec. styled in black and gold, **$10.50.** Case, **$1.39**



GENERAL ELECTRIC GOLDEN CROWN reads either reflected or incident light, has a sensitivity range from 6 to 25,600 footcandles (from 0.08 with addition of DynaCell, which boosts meter's sensitivity 16x). Film exposure range .1 to 20,000 ASA; shutter speed range, 120 to 1/32,000 sec.; movie settings, 8 to 128 fps; f/stop range, f/1 to f/45; exposure value settings, 1 to 20; Polaroid Land settings, 1 to 9. With leather case, neck cord, and Incident-light attachment, **$36.** DynaCell light multiplier with leather case **$7.95**



SEKONIC'S BROCKWAY "STUDIO" MODEL EXPOSURE METER features "Photosphere" which collects and measures all the incident light falling on a subject. Meter is designed for 1 reading. Light scale is over 100° in angular length. ASA exposure indexes from .2 to 12,000; lens apertures from f/1 to f/45; conventional, LVS and Polaroid readings; American and European shutter calibrations; direct reading movie exposures; 3 Direct-Reading Slides to pre-set meter for extra-fast calculations. Equipped with waterproof photoelectric cell, high-power permanent magnet, fully damped needle. **$29.50**

WALZ NORWOOD SUPER DIRECTOR exposure meter has range of film speeds from ASA 3 to ASA 20,000, f-stops from f/.7 to f/128, shutter speeds from 1/2000 to 128 sec. Also markings for EV or LVS numbers and movie frames from 8 fps to 128 fps, High sensitivity permits readings in illumination as low as five foot candles. Heliosphere used in incident light readings; use of Heliogrid adapts meter to reflected light readings when desired. Heliovalve provides automatic direct-reading f-stops for pre-adjusted film and shutter combinations. With case and neck strap, **$19.95**

See page 79 for enlarging meters

LENSES & SHUTTERS

still lenses

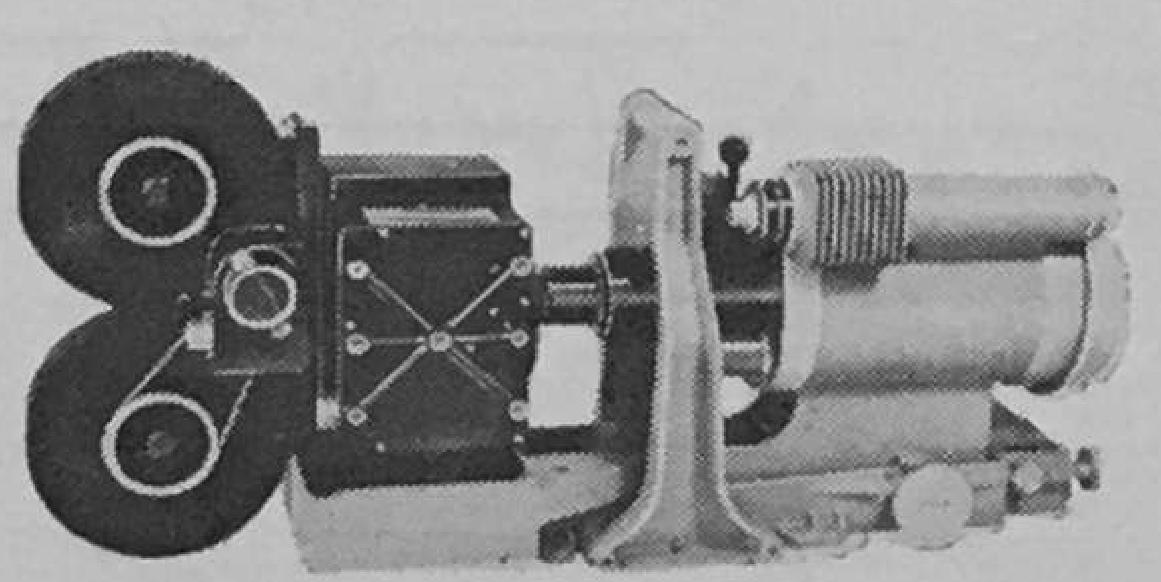
GOERZ LENSES are high-quality, precision, "handpicked." The "Red Dot" Artar is an apochromat type designed for maximum color results and greater sharpness in all types of photographic and graphic arts work. Available in 16 focal lengths, 4″ to 70″, barrel or shutter mounting. Golden Dagor f/6.8 lenses are available in 5 focal lengths. Golden Wide-Angle Dagor f/8 provides a maximum coverage of 100°. Available in 3 focal lengths. The Rectagon f/6 is a wide-angle lens of military precision for 4x5 Graphic, Linhof, etc. Covers 90° at f/6 and has 3″ focal length. See charts for prices & specifications. **GOERZ TRI-COLOR LENS** is designed for color separation and color printing processes. Extremely high, near apochromatic color correction (close to "Red Dot Artar") makes it ideal for use with Eastman "Short Run" or Tricolor process. Maximum aperture is f/4.5, decreases printing time through separation filters. Focal length is equivalent to long negative dimension instead of diagonal. Click stops to f/32. 5″, for 4x5″, **$195;** 7″, for 5x7″, **$290;** 10″, for 8x10″, **$385**

ROBERTSON MANUAL IRIS DIAPHRAGM CONTROL for Goerz Red Dot Artar 8¼, 12, 14, 16½, 19, 24 and 30″ lenses only, **$100;** for mounting on internal lens cone only, **$175**

WOLLENSAK RAPTAR TELEPHOTO F/5.6 LENSES are for cameras with interchangeable lens boards. These are available in synchromatic and non-synchromatic shutters. Wocoted Raptar Telephoto f/5.6 lenses available in: 8″, 202mm. 10″, 254mm; 15″; 380mm. See chart for prices. Raptar Wide Angle f/6.8 and f/9.5 Lenses are available in synchromatic and non-synchromatic shutters. See chart for prices and specifications.

WOLLENSAK SERIES II, F/4.5 RAPTAR STILL LENSES are ideal for news, feature, sport, outdoor and commercial photography. They deliver crisp, brilliant images, edge to edge sharpness, and fine shadow detail. Like all Wollensak lenses they are coated and fully color corrected. They can be fitted to popular press-type cameras. The longer focal length of this series makes them ideal for portraiture. All Series II lenses are 4-element lenses. Raptar Series II f/4.5 Wocoted are available in the following specifications: 3½″ (2¼x2¼″), in No. 1 Iris Diaph. Barrel or No. 1 Rapax Non-Sync, X-Sync, Full-Sync; 4″, (2¼x3¼″), in No. 1 Iris Diaph. Barrel or No. 1 Rapax Non-Sync, X-Sync, Full-Sync; 4½″, (2¼x3¼″), in No. 2 Iris Diaph. Barrel or No. 2 Rapax Non-Sync, X-Sync, Full-Sync; 5″, (3¼x4¼″), in No. 2 Iris Diaph. Barrel or No. 2 Rapax Non-Sync, X-Sync, Full-Sync; 5⅜″, (4x5″), in No. 3 Iris Diaph. Barrel or No. 2 Rapax Non-Sync, X-Sync, Full Sync; 6⅜″, (4x5″), in No. 4 Iris Diaph. Barrel or No. 3 Rapax Non-Sync, X-Sync, Full Sync; 7½″, (5x7″), in No. 5 Iris Diaph. Barrel or No. 3 Alphax Non-Sync, Sync; 8¼″, (5x8″), in No. 6 Iris Diaph. Barrel or No. 4 Alphax Non-Sync, Sync; 9½″, (6½x8½″), in No. 6 Iris Diaph. or No. 4 Alphax Non-Sync, Sync; 11⅞″, (8x10″), in No. 7 Iris Diaph. Barrel or No. 5 Alphax Non-Sync, Sync. See chart for prices.

ZOOMAR REFLECTAR TELEPHOTO LENS combines extremely long focal length with very high resolving power and light weight. Can be used on Leica, Contax and similar type cameras, on Single Lens Reflex Cameras, 35mm and 70mm motion picture cameras. The 20″ model covers 16mm, 35mm and double 35mm frames, the other models (40″, 80″, 100″ and 150″) cover in addition 2½x2½″ frame also. Prices: 20″, **$550;** 40″, **$1200;** 80″, **$1700;** 100″, **$2000;** 150″, **$3200.** Optional accessories include: internal focuser, Azimuth and elevation platform, wide angle tracking telescope, reticle printer, reflex finder, sunshield, target locator, 4 filter wheel, "Trulex" automatic exposure control. Prices on request.



shutters

WOLLENSAK RAPAX SHUTTERS feature accuracy, dependability and ease of operation. Clearly marked rim settings make for quick, easy diaphragming and exposure setting; speeds range from 1 to 1/400 sec. with Bulb & Time. Rapax Shutters are equipped with a Press-Focus Lever which opens shutter blades for focusing without setting to Time position. Internal synchronization gives maximum efficiency over entire shutter range by use of 2 synchronizer delay settings. Black "M" setting covers shutter speeds of 1/100 and faster; Red "M" setting 1/50 and slower; action is consistent and reliable since mechanical synchronization delay system is independent of condition of batteries in gun; internal synchronization conserves batteries since current is used only to flash lamps and is not drained by solenoid coil; permits "off-the-camera" flash shots; commercial BC flash circuits can be used with internal synchronization without harming contacts. Rapax Full Synchromatic Shutter gives completely automatic synch for X-type electronic high-speed lamps, plus automatic synch of Class M (20 millisecond) and Class F (5 millisecond) lamps. Cocking shutter automatically cocks synchronizer. Rapax "X" Synchromatic Shutter offers built-in electrical contacts for flashing "X" type electronic high speed lamps, "O" type thyraton trigger-type, at any shutter speed. Rapax Non-Synchronatic Shutter is identical to Synchromatic except for no internal synchronizer. Wollensak Alphax Shutters for longer focus lenses give reliable internal synchronization. The built-in mechanism assures automatic synchronization of any popular type flash lamp. See chart for prices and specifications.

ILEX 9x9″ ILEXPO SHUTTER is built into a standard front board with simplified attachment to the studio camera. Fitted with removable insert board to which lens barrel is attached, the interchanging of lenses on the same shutter is easily accomplished. Light aperture 4⅛″, insert board dimensions 6¾x6¾″. 9x9 regular Ilexpo, **$47.50;** F.S. (Fast Speed) Ilexpo, **$68.25.** Regular Ilexpo Synchro, **$65.50;** F.S. Ilexpo Synchro, **$86.25.** Bulb & tubing supplied at additional cost: bulb, **$2.10;** tubing, per ft., **21¢**

PACKARD-IDEAL SHUTTERS for use with view camera are designed for use behind-the-lens. Model #8 eliminates use of instantaneous pin; 2 pumps, operated with separate rubber bulbs, provide immediate action for either time or instantaneous exposures. Synchro units obtainable.

Dia. Opening Inches	Outside Dimensions	Price
2	4	$18.00
2¼	4½	18.00
2½	4¾	18.00
2¾	5	18.00
3	5¾	19.00
3¼	6	19.00
3½	6½	19.00
3¾	7	20.00
4	7½	20.00
4½	8	22.00
5	8½	23.00

STILL LENSES, REGULAR

Manufacturers' Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/.. to f/...	Film Size Covered, Maximum Aperture at Infinity	Diameter of Lensboard Mounting Hole in Inches	Outside Diameter of Front of Lens in Millimeters	Mounting	Price
Carl Zeiss (West Germany)								
Planar	4″	100	2.8-22	2¼ x 3¼″		60	Synchro-Compur M-X	$245.00
Planar	5¼″	135	3.5-32	4 x 5″		60	Synchro-Compur M-X	275.00
Tessar	4⅛″	105	4.5-22	2¼ x 3¼″		42	Synchro-Compur M-X	87.00
Tessar	6″	150	4.5-32	4 x 5″		51	Synchro-Compur M-X	159.50
Goerz								
Red Dot Artar	4″	102	9.5-64	2½ x 3½″	1.0″	24	Barrel	140.00*
Red Dot Artar	4″	102	9.5-64	2½ x 3½″	1.0″	24	Synchro-Compur MX/O	150.00*
Red Dot Artar	6″	152	9-64	3¼ x 4¼″	1.3″	33	Barrel	150.00
Red Dot Artar	6″	152	9-64	3¼ x 4¼″	1.3″	33	Synchro Compur MX/O	170.00
Red Dot Artar	8¼″	210	9-64	4 x 6″	1.5″	38	Barrel	180.00
Red Dot Artar	8¼″	210	9-64	4 x 6″	1.5″	38	Synchro Compur MX/1	205.00
Red Dot Artar	9½″	240	9-64	5 x 7″	1.9″	43	Barrel	205.00
Red Dot Artar	9½″	240	9-64	5 x 7″	1.9″	43	Synchro Compur MX/1	230.00
Red Dot Artar	9½″	240	9-64	5 x 7″	1.9″	43	#3 Acme Full Sync	255.00
Red Dot Artar	10¾″	270	9.5-90	5½ x 7½″	1.9″	43	Barrel	220.00
Red Dot Artar	10¾″	270	9.5-90	5½ x 7½″	1.9″	43	Synchro Compur MX/1	245.00
Red Dot Artar	10¾″	270	9.5-90	5½ x 7½″	1.9″	43	#3 Acme Full Sync	270.00
Red Dot Artar	12″	305	9-90	6½ x 8½″	2.2″	52	Barrel	271.00
Red Dot Artar	12″	305	9-90	6½ x 8½″	2.2″	52	Synchro Compur EX/2	298.00
Red Dot Artar	12″	305	9-90	6½ x 8½″	2.2″	52	#3 Acme Full Sync	325.00
Red Dot Artar	14″	360	9-90	7 x 10″	2.2″	52	Barrel	310.00
Red Dot Artar	14″	360	9-90	7 x 10″	2.2″	52	#4 Acme Full Sync	360.00
Red Dot Artar	16½″	420	9.5-90	9 x 12″	2.7″	62	Barrel	331.00
Red Dot Artar	16½″	420	9.5-90	9 x 12″	2.7″	62	#4 Acme Full Sync	380.00
Red Dot Artar	19″	480	11-90	10 x 14″	2.7″	62	Barrel	352.00
Red Dot Artar	19″	480	11-90	10 x 14″	2.7″	62	#4 Acme Full Sync	398.00
Red Dot Artar	24″	610	11-90	12 x 18″	3.1″	70	Barrel	423.00
Red Dot Artar	24″	610	11-90	12 x 18″	3.1″	70	#5 Universal Full Sync	495.00
Red Dot Artar	30″	760	12.5-90	16 x 20″	3.3″	85	Barrel	705.00
Red Dot Artar	35″	890	12.5-90	18 x 24″	4.3″	110	Barrel	965.00
Golden Dagor	6″	152	6.8-45	4 x 5″	1.5″	32.5	Synchro Compur MX/O	160.00
Golden Dagor	6″	152	6.8-45	4 x 5″	1.5″	32.5	#2 Rapax Full Sync	196.00
Golden Dagor	8¼″	210	6.8-45	5 x 8″	1.9″	43	Synchro Compur MX/1	210.00
Golden Dagor	8¼″	210	6.8-45	5 x 8″	1.9″	43	#3 Acme Full Sync	254.00
Golden Dagor	9½″	240	6.8-45	6½ x 8½″	2.2″	48.8	Synchro Compur EX/2	254.00
Golden Dagor	9½″	240	6.8-45	6½ x 8½″	2.2″	48.8	#3 Acme Full Sync	275.00
Golden Dagor	10¾″	170	6.8-45	7 x 9″	2.4″	53.3	#3 Acme Full Sync	309.00
Golden Dagor	12″	300	6.8-45	8 x 10″	2.7″	60.8	#4 Acme Full Sync	330.00
Graflex								
#141 Ektar	5″	127	4.7-	3¼ x 4¼″	1.541″	38	Graphic Synchro Compur	105.00
#244 Optar	5¼″	135	4.7-	3¼ x 4¼″	1.343″	38	#2 Graphex Full Sync	115.00
#245 Optar	5¼″	135	4.7-	3¼ x 4¼″	1.343″	38	#2 Graphex X Sync	97.50
#540 Optar	5¼″	135	4.5-	4 x 5″			Graflex 1000	169.50
#261 Optar	6⅜″	162	4.5-	4 x 5″	1.660″	44.5	#3 Graphex Full Sync	135.00
#174 Ektar	8″	203	7.7-	4 x 5″	1.541″	33	Graphic Synchro Compur	109.95
Ilex								
Paragon	2″	51	4.5-	1 x 1½″			Barrel	32.00*
Paragon	2″	51	4.5-22	1 x 1½″			#00 Acme Shutter	57.00*
Paragon	3″	76	4.5-	2¼ x 2¼″			Barrel	36.00*
Paragon	3″	76	4.5-32	2¼ x 2¼″			#0 Univ. Shutter	42.00*
Paragon	3½″	89	4.5-	2¼ x 3¼″			Barrel	42.00*
Paragon	3½″	89	4.5-32	2¼ x 3¼″			#0 Univ. Shutter	48.00*
Paragon	4¼″	103	4.5-	2½ x 3½″			Barrel	51.00*
Paragon	4¼″	108	4.5-32	2½ x 3½″			#1X Univ. Shutter	63.00*
Paragon	5″	127	4.5-32	3¼ x 4¼″			Barrel	52.00
Paragon	5½″	140	4.5-32	3¼ x 4¼″			Barrel	54.00
Paragon	5½″	140	4.5-32	3¼ x 4¼″			#3 Acme Synchro Shutter	119.30
Paragon	6½″	165	4.5-	4 x 5″			Barrel	66.00
Paragon	6½″	165	4.5-	4 x 5″			#3 Acme Synchro Shutter	131.30
Paragon	7½″	191	4.5-32	5 x 7″			Barrel	92.00

* Plus Federal Excise Tax

ZOOM FOR SMOOTHER ACTION

The past year has seen a truly phenomenal rise in the use of zoom lenses. We now find the professional using zoom lenses to a greater extent than ever.

What makes these variable focus lenses "tick?" We all know the purpose of these lenses—To give the effect of moving the camera closer or

continued on page 55

STILL LENSES, REGULAR *(Continued)*

Mfrs' Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/... to f/...	Film Size Covered, Maximum Aperture at Infinity	Diameter of Lensboard Mounting Hole in Inches	Outside Diameter of Front of Lens in Millimeters	Filter Size	Mounting	Price
Ilex—*Continued*									
Paragon	7½″	191	4.5-	5 x 7″				#3 Acme Synchro Shutter	**$156.80**
Paragon	8½″	216	4.5-	5 x 8″				Barrel	**134.00**
Paragon	8½″	216	4.5-	5 x 8″				#4X Univ. Shutter	**155.20**
Paragon	10″	254	4.5-	6½ x 8½″				Barrel	**176.00**
Paragon	10″	254	4.5-	6½ x 8½″				#5X Univ. Shutter	**197.30**
Paragon	12″	305	4.5-	8 x 10″				Barrel	**226.00**
Paragon	12″	305	4.5-32	8 x 10″				#5X Univ. Shutter	**247.30**
Paragon	14¾″	375	6.3-	11 x 14″				Barrel	**260.00**
Kodak									
Commercial Ektar	8½″	216	6.3-45	5 x 7″	2⅛″	44.5	7	Ilex Acme Synchro	**195.00**
Commercial Ektar	8½″	216	6.3-45	5 x 7″	2⅛″	44.5	7	Barrel	**142.50**
Commercial Ektar	10″	254	6.3-45	6½ x 8½″	2⅝″	54.0	8	Ilex Acme Synchro	**230.00**
Commercial Ektar	10″	254	6.3-45	6½ 8½″	2⅝″	54.0	8	Barrel	**177.50**
Commercial Ektar	12″	304	6.3-45	8 x 10″	2⅞″	63.5	8	Ilex Acme Synchro	**250.00**
Commercial Ektar	12″	304	6.3-45	8 x 10″	2⅞″	63.5	8	Barrel	**197.50**
Commercial Ektar	14″	356	6.3-45	8 x 10″	3⅜″	**	9	Ilex Universal Synchro	**300.00**
Commercial Ektar	14″	356	6.3-45	8 x 10″	3⅜″	**	9	Barrel	**255.00**
Ektar	7½″	190	4.5-32	5 x 7″	2⅝″	54	8	Ilex Acme Synchro	**190.00**
Ektar	12″	305	4.5-32	8 x 10″	3⅜″	80‡	9	Ilex Universal Synchro	**295.00**

‡ Kodak Adapter Ring #92.
** Kodak Adapter Ring #91.

Mfrs' Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/... to f/...	Film Size Covered, Maximum Aperture at Infinity	Diameter of Lensboard Mounting Hole in Inches	Outside Diameter of Front of Lens in Millimeters	Filter Size	Mounting	Price
Joseph Schneider									
Symmar	4⅛″	105	5.6-45	60 x 90mm	1¼″	32		Barrel	**79.50**
Symmar	4⅛″	105	5.6-45	60 x 90mm	1¼″	32		MX/CROO	**104.50**
Symmar	5¼″	135	5.6-32	90 x 120mm	1⅜″	42		Barrel	**89.50**
Symmar	5¼″	135	5.6-32	90 x 120mm	1⅜″	42		Synchro-Compur MX	**109.50**
Symmar	6″	150	5.6-32	105 x 130mm	1⅝″	51		Barrel	**99.50**
Symmar	6″	150	5.6-32	105 x 130mm	1⅝″	51		Synchro-Compur MX	**156.50**
Symmar	7⅛″	180	5.6-45	130 x 175mm	1 11/16″	57		Barrel	**129.50**
Symmar	7⅛″	180	5.6-45	130 x 175mm	1 11/16″	57		Synchro-Compur MX	**174.50**
Symmar	8¼″	210	5.6-45	130 x 175mm	1 11/16″	60		Barrel	**156.50**
Symmar	8¼″	210	5.6-45	130 x 175mm	1 11/16″	60		Synchro-Compur MX	**199.50**
Symmar	9½″	240	5.6-45	180 x 240mm	2⅛″	70		Barrel	**189.50**
Symmar	9½″	240	5.6-45	180 x 240mm	2⅛″	70		Compur X	**279.50**
Symmar	11¾″	300	5.6-45	250 x 300mm				Barrel	**309.50**
Symmar	11¾″	300	5.6-45	250 x 300mm				Compound X	**509.50**
Symmar	14¼″	360	5.6-45	300 x 400mm				Barrel	**399.50**
Symmar	14¼″	360	5.6-45	300 x 400mm				Compound X	**509.50**
Xenar	4⅛″	105	3.5-22	60 x 90mm	1⅝″	42		Barrel	**74.50**
Xenar	4⅛″	105	3.5-22	60 x 90mm	1⅜″	42		Synchro Compur MX Synch	**94.50**
Xenar	5¼″	135	4.5-32	90 x 120mm	1⅝″	42		Barrel	**59.50**
Xenar	5¼″	135	4.5-32	90 x 120mm	1⅝″	42		Compur MX	**105.00**
Xenar	4⅛″	105	4.5-22	60 x 90mm	1⅜″	42		Barrel	**54.50**
Xenar	4⅛″	105	4.5-22	60 x 90mm	1⅜″	42		Synchro Compur MX	**94.50**
Xenar	5¼″	135	4.7-32	90 x 120mm	1⅜″	42		Compur MX	**105.00**
Xenar	6″	150	4.5-32	90 x 120mm	1⅝″	42		Barrel	**64.50**
Xenar	6″	150	4.5-32	90 x 120mm	1⅝″	42		Synchro Compur MX	**114.50**
Xenar	7⅛″	180	4.5-32	100 x 150mm	2⅜″	51		Barrel	**89.50**
Xenar	7⅛″	180	4.5-32	100 x 150mm	2⅜″	51		Compur X	**184.50**
Xenar	8¼″	210	4.5-32	130 x 180mm	2½″	60		Barrel	**104.50**
Xenar	8¼″	210	4.5-32	130 x 180mm	2½″	60		Compound X	**214.50**
Xenar	9½″	240	4.5-32	130 x 180mm	3 3/16″	70		Barrel	**164.50**
Xenar	9½″	240	4.5-32	130 x 180mm	3 3/16″	70		Compound X	**269.50**
Xenar	12″	300	4.5-32	180 x 240mm	3 11/16″	85		Barrel	**244.50**
Xenar	12″	300	4.5-32	180 x 240mm	3 11/16″	85		Compound X	**359.50**
Xenar	14¼″	360	4.5-32	180 x 240mm	4 3/16″	105		Barrel	**359.50**

STILL LENSES, REGULAR *(Continued)*

Mfrs. Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/... to f/...	Film Size Covered, Maximum Aperture at Infinity	Diameter of Lensboard Mounting Hole in Inches	Outside Diameter of Front of Lens in Millimeters	Mounting	Price
Joseph Schneider—*Continued*								
Xenar	16¾″	420	4.5-32	240 x 300mm	4⅞″	117	Barrel	**$469.50**
Xenar	19″	480	4.5-32	300 x 400mm	5 3/16″	123	Barrel	**689.50**
Xenotar	3⅛″	80	2.8-32	60 x 60mm	1⅜″	42	Barrel	**139.50**
Xenotar	3⅛″	80	2.8-32	60 x 60mm	1⅜″	42	Synchro Compur MX	**159.50**
Xenotar	4⅛″	105	2.8-32	60 x 90mm	1 11/16″	51	Barrel	**159.50**
Xenotar	4⅛″	105	2.8-32	60 x 90mm	1 11/16″	51	Synchro Compur MX	**204.50**
Xenotar	5¼″	135	3.5-22	4 x 5″	2 1/16	60	Barrel	**149.50**
Xenotar	5¼″	135	3.5-22	4 x 5″	2 1/16″	60	MX/CROO	**199.50**
Xenotar	6″	150	2.8-32	105 x 130mm	2⅛″	80	Barrel	**299.50**
Xenotar	6″	150	2.8-32	105 x 130mm	2⅛″	80	Compur X	**389.50**
Voigtlander								
Apo-Lanthar	4⅛″	105	4.5-32	2¼ x 3¼″		42	Compur MX	**90.00**
Apo-Lanthar	6″	150	4.5-32	4 x 5″		42	Compur MX	**120.00**
Apo-Lanthar	8¼″	210	4.5-32	5 x 7″		57	Compur X	**175.00**
Heliar	8¼″	210	4.5-	5 x 7″		57	Barrel	**90.00**
Heliar	8¼″	210	4.5-	5 x 7″		57	Compound X	**135.00**
Heliar	9½″	240	4.5-	6 x 8″		70	Barrel	**135.00**
Heliar	9½″	240	4.5-	6 x 8″		70	Compound X	**190.00**
Heliar	12″	300	4.5-	8 x 10″		85	Barrel	**225.00**
Heliar	14¼″	360	4.5-			98	Barrel	**360.00**
Heliar	16¾″	420	4.5-			116	Barrel	**450.00**
Heliar	19¼″	480	4.5-			128	Barrel	**750.00**
Heliar	12″	300	4.5-	8 x 10″		85	Compound X	**250.00**
Telomar	7″	180	4.5-				Synchro-Compur	**75.00**
Telomar	9½″	240	4.5-	6 x 8″			Synchro-Compur	**122.50**
Telomar	14¼″	360	4.5-				Compound X	**244.50**
Universal Heliar*	12″	300	4.5-			85	Barrel	**225.00**
Universal Heliar*	14¼″	360	4.5-			98	Barrel	**390.00**
Universal Heliar*	16¾″	420	4.5-			116	Barrel	**500.00**
Universal Heliar*	19¼″	480	4.5-			128	Barrel	**750.00**
* With moving 6th element for soft focus as well as commercial work.								
Wollensak Raptar								
#410	3½″	90	4.5-	2¼ x 3¼″		32.7	#1 Iris Diaphragm, Barrel	**$49.82**
#411	3½″	90	4.5-	2¼ x 3¼″		31.7	#1 Rapax Non Sync	**67.86**
#412	3½″	90	4.5-	2¼ x 3¼″		31.7	#1 Rapax X Sync	**77.86**
#413	3½″	90	4.5-	2¼ x 3¼″		31.7	#1 Rapax Full Sync	**90.86**
#414	4″	101	4.5-	2¼ x 3¼″		32.7	#1 Iris Diaphragm, Barrel	**50.88**
#415	4″	101	4.5-	2¼ x 3¼″		31.7	#1 Rapax Non Sync	**68.92**
#416	4″	101	4.5-	2¼ x 3¼″		31.7	#1 Rapax X Sync	**78.92**
#417	4″	101	4.5-	2¼ x 3¼″		31.7	#1 Rapax Full Sync	**91.92**
#418	4½″	114	4.5-	2¼ x 3¼″		38.8	#2 Iris Diaphragm, Barrel	**60.42**
#419	4½″	114	4.5-	2¼ x 3¼″		38.8	#2 Rapax Non Sync	**84.22**
#420	4½″	114	4.5-	2¼ x 3¼″		38.8	#2 Rapax X Sync	**93.22**
#421	4½″	114	4.5-	2¼ x 3¼″		38.8	#2 Rapax Full Sync	**107.22**
#424	5″	127	4.5-	3¼ x 4¼″		36	#2 Iris Diaphragm, Barrel	**62.00**
#425	5″	127	4.5-	3¼ x 4¼″		38	#2 Rapax Non Sync	**87.00**
#426	5″	127	4.5-	3¼ x 4¼″		38	#2 Rapax X Sync	**96.00**
#427	5″	127	4.5-	3¼ x 4¼″		38	#2 Rapax Full Sync	**110.00**
#430	5⅜″	135	4.5-	4 x 5″		39.4	#3 Iris Diaphragm, Barrel	**66.00**
#431	5⅜″	135	4.7-	4 x 5″		38	#2 Rapax Non Sync	**88.50**
#432	5⅜″	135	4.7-	4 x 5″		38	#2 Rapax X Sync	**97.50**
#433	5⅜″	135	4.7-	4 x 5″		38	#2 Rapax Full Sync	**115.00**
#436	6⅜″	162	4.5-	4 x 5″		47.5	#4 Iris Diaphragm, Barrel	**85.00**
#437	6⅜″	162	4.5-	4 x 5″		44.4	#3 Rapax Non Sync	**107.50**
#438	6⅜″	162	4.5-	4 x 5″		44.4	#3 Rapax X Sync	**115.00**
#439	6⅜″	162	4.5-	4 x 5″		44.4	#3 Rapax Full Sync	**135.00**
#442	7½″	190	4.5	5 x 7″		54.5	#5 Iris Diaphragm, Barrel	**108.00**
#443	7½″	190	4.5-	5 x 7″		54.5	#3 Alphax Non Sync	**134.00**
#444	7½″	190	4.5-	5 x 7″		54.5	#3 Alphax Sync	**144.00**
#445	8¼″	210	4.5-	5 x 8″		63.9	#6 Iris Diaphragm, Barrel	**150.50**
#446	8¼″	210	4.5-	5 x 8″		63.9	#4 Alphax Non Sync	**174.00**
#447	8¼″	210	4.5-	5 x 8″		63.9	#4 Alphax Sync	**180.50**
#448	9½″	241	4.5-	6½ x 8½″		63.4	#6 Iris Diaphragm, Barrel	**189.50**
#449	9½″	241	4.5-	6½ x 8½″		63.4	#4 Alphax Non Sync	**213.00**
#450	9½″	241	4.5-	6½ x 8½″		63.4	#4 Alphax Sync	**219.50**
#451	11⅞″	302	4.5-	8 x 10″		76.6	#7 Iris Diaphragm, Barrel	**256.00**
#452	11⅞″	302	4.5-	8 x 10″		76.6	#5 Alphax Non Sync	**273.00**
#453	11⅞″	302	4.5-	8 x 10″		76.6	#5 Alphax Sync	**278.00**

further away from the scene while keeping the imaage in focus on the film. All this, simply by cranking a dial or moving a lever.

To achieve this, the designer has certain lens elements move back and forth. As the focus changes, the film image must always remain in focus, all lens aberrations must continue to remain corrected and the f/number selected must also remain unchanged. These results are only achieved by superior design and workmanship.

Variable focus lenses eliminate the need of lens changing while shooting a scene. Action is alweys smoother than the best editing because there is absolutely no break in the continuity. Their multitudinous television applications have been partially responsible for the many new types and designs in use today.

Zoom lenses are also being used in greater numbers in the field of motion picture projection. They enable the projectionist to fill the screen without moving either the projector or the screen.

Zoom has a place in all motion picture or television work today. If you are not using these valuable tools at the present time, or if you are, and wish to know about the latest developments in this field.

Call us. Our experts will recommend types and applications or advise you as to what is currently available.

book

PHOTOGRAPHIC OPTICS by Arthur Cox This has been called the only book dealing thoroughly with the optics of photography in a language which the ordinary photographer can understand. This eleventh revised edition brings it abreast of all developments in optical design. Well illustrated, and suitable for advanced study. 376 pages. **$5.75**

STILL LENSES, TELEPHOTO and LONG FOCUS

Mfrs. Name, Model, Catalog Number	Focal Length inches	mm	Apertures from f/.... to f/....	Film Size Covered At Infinity Max. Apert.	Min. Apert.	Diameter of Lensboard Mounting Hole in inches	Outside Diameter of Front of Lens in Millimeters	Type of Mounting	Price
Carl Zeiss (West Germany)									
Sonnar	7	180	4.8-32		2¼ x 3¼″		70	Synchro-Compur M-X	**295.00**
Sonnar	10	250	5.6-45		4 x 5″		80	Synchro-Compur M-X	**495.00**
Graflex									
270 Tele-Optar	8	202	5.6-		3¼ x 4¼″	1.343″	44.5	Barrel	**107.50**
271 Tele-Optar	8	202	5.6-		3¼ x 4¼″	1.343″	44.5	#2 Graphex	**165.00**
281 Tele-Optar	10	254	5.6-		4 x 5″	1.660″	57	Barrel	**145.00**
283 Tele-Optar	10	254	5.6-		4 x 5″	1.660″	57	#3 Graphex (X)	**180.00**
294 Tele-Optar	15	380	5.6-		5 x 7″	2.630″	82.5	Barrel	**210.00**
292 Tele-Optar	15	380	5.6-		5 x 7″	2.630″	82.5	#4 Alphax	**244.00**
Joseph Schneider									
Tele Arton	7⅛	180	5.5-32	60 x 90mm		1⅜″	42	Barrel④	**109.50**
Tele Arton	9½	240	5.5-32	60 x 90mm		1 11/16″	51	Barrel④	**159.50**
Tele Arton	9½	240	5.5-32	90 x 120mm		2 3/32″	51	Barrel②	**174.50**
Tele Arton	10⅝	270	5.5-32	90 x 120mm				Barrel	**219.50**
Tele Arton	10⅝	270	5.5-32	90 x 120mm				Compur XII	**299.50**
Tele-Xenar	14¼	360	5.5-32	130 x 180mm		2½″	70	Barrel③	**159.50**
Tele-Xenar	19¾	500	5.5-32	150 x 200mm		3¾″	110	Barrel③	**425.00**
Tele-Xenar	5¼	135	3-5.32			**	51	Stopomatic	**164.50**
Tele-Xenar	3½	90	3.5-32			**		Preset	**94.50**
Tele-Xenar	8	200	5.5-32	90 x 120mm		**		Preset	**136.50**
Tele-Xenar	14¼	360	5.5-32	120 x 240mm		**		Preset	**269.50**
Voigtlander									
Telomar	7⅛	180	5.5-	60 x 90mm			42	Synchro Compur	**75.00**
Telomar	9½	240	5.5-	90 x 120mm			51	Synchro Compur	**122.50**
Telomar	14¼	360	5.5-	130 x 180mm			70	X-Compound	**244.50**
Wollensak Raptar Telephoto									
510	8	202	5.6-	3¼ x 4¼″ & 2¼ x 3¼″			44.4	#3 Iris Diaphragm, Barrel	**107.50**
511	8	202	5.6-	3¼ x 4¼″			44.4	#2 Rapax Non Sync	**142.00**
512	8	202	5.6-	3¼ x 4¼″			44.4	#2 Rapax X-Sync	**151.00**
513	8	202	5.6-	3¼ x 4¼″			44.4	#2 Rapax Full Sync	**165.00**
516	10	254	5.6-	4 x 5″ & 3¼ x 4¼″			57	#4 Iris Diaphragm, Barrel	**145.00**
517	10	254	5.6-	4 x 5″			57	#3 Rapax Non Sync	**172.50**
518	10	254	5.6-	4 x 5″			57	#3 Rapax X-Sync	**180,00**
519	10	254	5.6-	4 x 5″			57	#3 Rapax Full Sync	**200.00**
522	15	380	5.6-	5 x 7″ & 4 x 5″			82.9	#6 Iris Diaphram, Barrel	**210.00**
523	15	380	5.6-	5 x 7″			82.9	#4 Alphax Non Sync	**239.00**
524	15	380	5.6-	5 x 7″			82.9	#4 Alphax Sync	**244.00**
Zoomar									
Reflectar	20	500	5.6-	24 x 36mm	18 x 24mm	2.5″	125	Special Mount	**550.00**
Reflectar	20	500	4-	....	....	...	...	Special Mount	**1,500.00**
Reflectar	40	1000	8-	2¼ x 2¼″	24 x 36mm	3″	156	Special Mount	**1,200.00**
Reflectar	80	2000	15-	2¼ x 2¼″	24 x 36mm	3″	156	Special Mount	**1,700.00**
Reflectar	100	2500	20-	2¼ x 2¼″	24 x 35mm	3″	156	Special Mount	**2,000.00**
Reflectar	150	3750	25-	2¼ x 2¼″	24 x 36mm	3″	156	Special Mount	**3,200.00**

** Kine Exakta, Praktica and similar cameras. ①Also in Compur X or MX. ②Also in Compur X. ③Also in Compound X. ④Also in Compur MX.

about lenses and shutters

Thousands of different lenses have been designed and manufactured since photography began. Even today the photographer is faced with many choices. To make the correct decision, he must know what the lens is designed to do and its limitations. The following is a rough guide to some important lens designations:

Anastigmat lens—one that has been corrected for astigmatism and whose field is substantially flat.

Achromatic lens—one without chromatic aberrations. Today, only the simple landscape lenses in box-type cameras lack achromatization.

Apochromatic lens—in this type of lens all the colors of the spectrum come to a point of common focus and the slight residual of color (secondary spectrum) that results from the lens being achromatized is reduced to a negligible point. This type of lens is mostly used in 3-color process cameras and for color photomicrography.

Standard lens—usually the lens supplied with the camera as standard equipment and, with still cameras; one whose focal length roughly equals the length of the diagonal of the negative area normally provided by the camera. The normal field of view of a standard lens is about 53°.

Wide-field lens —one designed to cover a field of view of approximately 75°.

Wide-angle lens —one designed to cover a field of view of approximately 90° to 135°.

STILL LENSES, WIDE ANGLE

Manufacturers' Name, Model, Catalog Number	Focal Length Inches	mm	Apertures from f/... to f/...	Film Size Covered, Maximum Aperture at Infinity	Film Size Covered, Minimum Aperture at Infinity	Diameter of Lensboard Mounting Hole in Millimeters	Outside Diameter of Front of Lens in Millimeters	Filter Size	Type of Mounting	Price
Carl Zeiss (West Germany)										
Biogon (Extreme W/A)	2⅛	53	4.5-	2¼ x 3¼"		70			Compur O M-X	$ 436.00
Biogon (Extreme W/A)	3	75	4.5-	4 x 5"		100			Compur O M-X	750.00
Goerz										
Wide Angle Dagor	3⅝	92	8-45	3¼ x 4¼"	5 x 7"	32.5mm	33		Synchro Compur MX/OO	178.00†
Wide Angle Dagor	4⅜	111	8-45	4 x 5"	6½ x 8½"	42mm	51		Synchro Compur MX/1	188.50†
Wide Angle Dagor	4⅜	111	8-45	4 x 5"	6½ x 8½"	42mm	51		#3 Acme Full Sync.	209.50†
Wide Angle Dagor	6½	165	8-45	5½ x 7½"	10 x 12"	42mm	51		Synchro Compur MX/1	209.50
Wide Angle Dagor	6½	165	8-45	5½ x 7½"	10 x 12"	42mm	51		#3 Acme Full Sync.	230.50
Wide Angle Rectagon	3	75	6-45	4 x 5"	4 x 5"	48mm			#3 Acme Full Sync.	188.50†
Wide Angle Rectagon	3	75	6-45	4 x 5"	4 x 5"	48mm			Synchro Compur MX/1	208.50†
Graflex										
221 Wide Angle Optar	3½	90	6.8-		4 x 5"		31.5		#1 Graphex Full Sync.	118.42
Kodak****										
Wide Field Ektar	7½	190	6.3-45	5 x 7"	8 x 10"	73mm	*	8	Ilex Acme Synchro	235.00
Wide Field Ektar	10	250	6.3-45	8 x 10"	11 x 14"	86mm	*	9	Ilex Universal Synchro	250.00
Joseph Schneider										
Angulon	2⅝	65	6.8-22	60 x 90mm		27mm	32		Barrel	64.95
Angulon	2⅝	65	6.8-22	60 x 90mm		27mm	32		Synchro Compur MX	89.95
Angulon	3½	90	6.8-32	90 x 120mm		35mm	48		Barrel	74.95
Angulon	3½	90	6.8-32	90 x 120mm		35mm	42		Synchro Compur MX	94.95
Angulon	4¾	120	6.8-32	130 x 180mm		42mm	57		Barrel	79.95
Angulon	4¾	120	6.8-32	130 x 180mm		42mm	51		Synchro Compur MX 15	129.95
Angulon	6½	165	6.8-32	180 x 240mm		52mm	60		Barrel	109.95
Angulon	6½	165	6.8-32	180 x 240mm		52mm	60		Compur X	199.95
Angulon	8¼	210	6.8-32	240 x 300mm		64mm	70		Barrel	129.95
Angulon	8¼	210	6.8-32	240 x 300mm		64mm	70		Compound X	239.95
Super Angulon	2	47	8.0-32	60 x 90mm		30mm	42		Synchro Compur MX	154.50
Super Angulon	2⅝	65	8.0-45	90 x 120mm		30mm	51		Synchro Compur MX	165.50
Super Angulon	3½	90	8.0-45	130 x 180mm		29mm	70		Synchro Compur MX	189.50
Super Angulon	4¾	121	8.0-45	180 x 240mm		62mm	80		Synchro Compur MX	299.50
Super Angulon	6½	165	8.0-64	240 x 300mm		61mm	110		Synchro Compur MX	459.50
Super Angulon	8¼	210	8.0-64	300 x 400mm		60mm	132		Synchro Compur MX	719.50
Xenogon	1⅜	35	2.8-22	2 x 36mm		**	36		Special Leica Mount	109.50
Curtagon	1⅛	28	4-22	24 x 36mm		***	51		Stopomatic	169.50
Curtagon	1⅜	35	2.8-22	24 x 36mm		***	51		Stopomatic	149.50
Wollensak										
Wide Angle Raptar 550	2 9/16	65	6.8-	3¼ x 4¼"			32.7		#1 Iris Diaphragm, Barrel	73.14
Wide Angle Raptar 551	2 9/16	65	6.8-	3¼ x 4¼"			34.5		#1 Rapax Non Sync.	91.18
Wide Angle Raptar 552	2 9/16	65	6.8-	3¼ x 4¼"			34.5		#1 Rapax X Sync.	101.18
Wide Angle Raptar 553	2 9/16	65	6.8-	3¼ x 4¼"			34.5		#1 Rapax Full Sync.	114.18
Wide Angle Raptar 554	3½	90	6.8-	4 x 5"			32.7		#1 Iris Diaphragm, Barrel	77.38
Wide Angle Raptar 555	3½	90	6.8-	4 x 5"			31.7		#1 Rapax Non Sync.	95.42
Wide Angle Raptar 556	3½	90	6.8-	4 x 5"			31.7		#1 Rapax X Sync.	105.42
Wide Angle Raptar 557	3½	90	6.8-	4 x 5"			31.7		#1 Rapax Full Sync.	118.42
Wide Angle Raptar 558	4¼	108	6.8-	5 x 7"			32.7		#2 Iris Diaphragm, Barrel	93.81
Wide Angle Raptar 559	4¼	108	6.8-	5 x 7"			38		#2 Rapax Non Sync.	117.61
Wide Angle Raptar 560	4¼	108	6.8-	5 x 7"			38		#2 Rapax X Sync.	126.61
Wide Angle Raptar 561	4¼	108	6.8-	5 x 7"			38		#2 Rapax Full Sync.	140.61
Raptar Series III 575	6¼	159	9.5-	8 x 10"			47.5		#4 Iris Diaphragm, Barrel	123.00
Raptar Series III 576	6¼	159	9.5-	8 x 10"			44.4		#3 Rapax Non Sync.	145.50
Raptar Series III 577	6¼	159	9.5-	8 x 10"			44.4		#3 Rapax X Sync.	153.00
Raptar Series III 578	6¼	159	9.5-	8 x 10"			44.4		#3 Rapax Full Sync.	173.00

* No Adapter Ring.
** Special Leica Thread Mount.
*** Special Mounts for Kine Exakta, Exa, Praktica, Pentacon and similar cameras.

**** Listed here for convenience; actually are special lenses with wide angle field.
† Plus Federal Excise Tax.

Long-focus lens—one longer in focal length than the standard lens for the camera. A 75mm lens would be a long-focus objective for a 35mm camera, but a standard lens for a 2¼x2¼ camera. All telephoto lenses are long-focus lenses, but not all long-focus lenses are telephotos. Long-focus lenses give greater image magnification, but have narrower anges of view.

Telephoto lens —one designed in a special, compact manner so that the distance from the front of the lens to the film plane is less than the focal length of the lens. In situations where the construction limitations of a reflex or motion picture camera prevent the use of a lens of suitably short focal length, the reversed telephoto lens, with back focus greater than its equivalent focal length, may be used.

Singlet —a single component lens with external stop. This is the ordinary landscape type used on box-type cameras; can be used at apertures up to f/14 and provide negatives which can be printed and enlarged to a low degree over a field of about 50°. When stopped down excellent negatives can be obtained.

Doublet—a cemented lens pair, e.g. a telescope objective. Not to be confused with the duplet below.

Duplet—a lens type consisting of two similar components with a central step, often symmetrical. Duplets are used on enlargers, process cameras and cine printers.

Triplet—an unsymmetrical lens system having three air-spaced components, positive on the outside and negative on the inside. These and the quadruplets below are de-

continued on next page

PROCESS LENSES FOR STILL CAMERAS

Mfrs. Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/... to f/...	Plate Size Covered (without prism)				Price	Prism Number	Prism Price
				at 1:1	at 1:5	at 1:5	at 1:10			
Goerz										
Red Dot Artar	4″	102mm	9.5-64	4 x 6″	2½ x 3½″	2½ x 3″	2 x 3″	**$ 140.00***	...	....
Red Dot Artar	6″	152mm	9-64	6½ x 8½″	4 x 5″	3½ x 4½″	3¼ x 4¼″	**150.00**	...	....
Red Dot Artar	8¼″	210mm	9-64	9 x 12″	5 x 7″	4½ x 6½″	4 x 5″	**180.00**	...	....
Red Dot Artar	9½″	240mm	9-64	10 x 14″	6½ x 8½″	5 x 8″	5 x 7″	**205.00**	...	....
Red Dot Artar	10¾″	270mm	9.5-90	12 x 14″	7 x 9″	6 x 8″	5½ x 7½″	**220.00**	...	....
Red Dot Artar	12″	305mm	9-90	12 x 18″	8 x 10″	7 x 9″	6½ x 8½″	**271.00**	...	....
Red Dot Artar	14″	360mm	9-90	16 x 20″	10 x 12″	8 x 10″	7 x 9″	**310.00**	#2⅜	**$ 285.00**
Red Dot Artar	16½″	420mm	9.5-90	18 x 22″	11 x 14″	10 x 12″	8 x 10″	**331.00**	#2⅞	**290.00**
Red Dot Artar	19″	480mm	11-90	20 x 24″	14 x 17″	11 x 14″	10 x 12″	**352.00**	#2⅞	**290.00**
Red Dot Artar	24″	610mm	11-90	25 x 32″	18 x 20″	14 x 17″	12 x 15″	**473.00**	#3¼	**315.00**
Red Dot Artar	30″	760mm	12.5-90	30 x 40″	22 x 26″	18 x 20″	16 x 20″	**705.00**	#3¾	**388.00**
Red Dot Artar	35″	890mm	12.5-90	36 x 45″	24 x 32″	20 x 24″	18 x 22″	**965.00**	#3¾	**398.00**
Red Dot Artar	42″	1065mm	14-90	48 x 56″	32 x 36″	25 x 30″	22 x 27″	**1175.00**	#5	**775.00**
Red Dot Artar	47½″	1205mm	15-90	48 x 64″	36 x 40″	30 x 35″	25 x 32″	**1450.00**	#5	**775.00**
Red Dot Artar	70″	1780mm	16-90	72 x 80″	48 x 64″	40 x 48″	36 x 45″	**2750.00**		On request
Plus Federal Excise Tax.										
Nikkor										
Apo-Nikkor	...	300mm	9.0-90	10 x 12″	7.5 x 9″	6 x 7.2″	5.5 x 6.6″	**220.00**	...	....
Apo-Nikkor	...	450mm	9.0-90	14 x 17″	10.5 x 12.75″	8.4 x 10.2″	7.7 x 9.35″	**299.50**	...	....
Apo-Nikkor	...	600mm	9.0-90	18 x 22″	13.5 x 16.5″	10.8 x 13.2″	9.9 x 12.1″	**415.00**	...	....
Apo-Nikkor	...	750mm	9.0-90	23 x 27″	17.25 x 20.25″	13.8 x 16.2″	12.65 x 14.85″	**590.00**	...	....
Apo-Nikkor	...	900mm	9.0-90	28 x 33″	21 x 24.75″	16.8 x 19.8″	15.4 x 18.15″	**710.00**	...	....
Rodenstock (Lenses in shutter)										
Apo-Ronar	6″	150	9-64	7⅛ x 7⅛″	....	....	3⅞ x 3⅞″	**145.00**	...	....
Apo-Ronar	9½″	240	9-90	9⅞ x 13¾″	....	....	5⅞ x 5⅞″	**185.00**	...	....
Apo-Ronar	12″	300	9-90	13¾ x 15¾″	....	....	7⅞ x 7⅞″	**230.00**	...	....
Apo-Ronar	14¼″	360	9-90	17¾ x 17¾″	....	....	9⅞ x 9⅞″	**275.00**	...	....
Apo-Ronar	19″	480	9-90	21⅝ x 23⅝″	....	....	11¾ x 11¾″	**370.00**	...	....
Apo-Ronar	24″	600	9-90	27½ x 27½″	....	....	15¾ x 15¾″	**455.00**	...	....
Voigtlander										
Apo-Skopar	...	300mm	9-64	30 x 40″	24 x 30″	18 x 24″	18 x 21″	**175.00**	...	....
Apo-Skopar	...	450mm	9-64	50 x 60″	35 x 40″	26 x 35″	24 x 39″	**262.50**	...	....
Apo-Skopar	...	600mm	9-64	75 x 80″	50 x 60″	40 x 45″	39 x 40″	**385.00**	...	....
Apo-Skopar	...	750mm	9-64	90 x 90″	60 x 70″	45 x 55″	40 x 55″	**650.00**	...	....

Mfrs. Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Plates Covered for Reduction in Inches	Plates Covered for Full-Size Copy in Inches	Mounting	Price	Size & Price of Prism	
							Size	Price
Wollensak Apochromatic Raptar f/10								
648*	6″	152mm	9-4 x 5″	5¼ x 7″	In No. 3 Iris Diaph. Barrel	**$120.00**		
649*	8¼″	210mm	9-4½ x 6½″	8 x 9″	In No. 3 Iris Diaph. Barrel	**140.00**	1½″	**$ 85.00**
650**	10¾″	260 mm	6 x 8″	10 x 12″	In No. 3 Iris Diaph. Barrel	**174.00**	2″	**125.00**
656	13″	330mm	7 x 9″	11 x 13″	In No. 4 Iris Diaph. Barrel	**185.00**	2½″	**135.00**
662	14″	355mm	8½ x 11″	12 x 17″	In No. 4 Iris Diaph. Barrel	**185.00**	2½″	**135.00**
668	16″	406mm	10 x 12″	14 x 17″	In No. 5 Iris Diaph. Barrel	**214.50**	3″	**185.00**
671	19″	482mm	11 x 14″	18 x 22″	In No. 6 Iris Diaph. Barrel	**268.00**	3½″	**235.00**
674	25″	635mm	12 x 17″	20 x 24″	In No. 7 Iris Diaph. Barrel	**369.00**	3½″	**235.00**

* Aperture f/9 ** Aperture f/9.5

All above lenses available in shutters on special order. Prices upon request.

PORTRAIT LENSES

Manufacturers' Name, Model, Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Apertures from f/......to f/......	Film Size Covered	Diameter of Lensboard Mounting Hole in Inches	Diameter of Lensboard Mounting Hole in Millimeters	Outside Diameter of Front Lens in Millimeters	Filter Size Required	Type of Mounting	Price
Kling										
Rodenstock	8"	200	5.8-11.5	4x5	...	...	...	...	Compound X Shutter	$183.00
Imagon Variable	10"	250	5.8-11.5	5x7	...	...	...	...	Compound X Shutter	199.00
Softness	12"	300	5.8-11.5	8x10	...	...	...	...	Compound X Shutter	234.00
Kodak										
Portrait	12"	305	4.8-22	5x7	3 3/8"	86	90	9	Ilex Universal Synchro	$190.00
Portrait	16"	405	4.5-22	8x10	5 3/16"	132	126	...	Barrel	170.00
Wollensak										
475 Veritar	10"	254	...	5x7	...	...	77.5	...	#6 Iris Diaphragm, Barrel	$137.50
476 Veritar	10"	254	...	5x7	...	...	77.5	...	#4 Alphax Non Sync	161.00
477 Veritar	10"	254	...	5x7	...	...	77.5	...	#4 Alphax Sync	175.00
478 Veritar	14"	356	...	8x10	...	...	100	...	#8 Iris Diaphragm, Barrel	222.00
479 Veritar	14"	356	...	8x10	...	...	104.7	...	#5 Alphax Non Sync	223.00
480 Veritar	14"	356	...	8x10	...	...	104.7	...	#5 Alphax Sync	228.00

signed to meet today's high aperture requirements for still and motion picture cameras. They are used on almost all slide projectors, 8mm and the lower priced 16mm movie cameras.

Quadruplet — a lens type consisting of four air-spaced components; usually plus-minus-minus-plus, but sometimes plus-minus-plus-minus.

Petzval "portrait" lens —one with essentially a telescope objective in front and a second, modified telescope objective located at some distance from the front one. This lens is no longer used for portraiture (triplets or even duplets are used) but is used for projection and all 8mm and 16mm movie projectors and many 35mm come with this type.

SHUTTERS FOR STILL CAMERAS

Manufacturers' Name & Model Number	Size Number	Maximum Iris Opening in Inches	Front Lens Thread Diameter in Inches	Rear Lens Thread Diameter in Inches	Outside Diameter	Speeds	Type of Synchronization	Price
Ilex								
Acme	00	11/16"	29/32"	1"	1 7/8"	1-1/300, T&B		40.00
Universal	0	3/4"	1 1/16"	1 3/16"	2 1/16"	1-1/100, B&T		21.00
Universal	1	1"	1 3/16"	1 5/16"	2 1/4"	1-1/100, B&T		21.40
Universal	1-X	1"	1 3/16"	1 5/16"	2 1/4"	1-1/100, T&B	X type	34.00
Acme	2	1 3/16"	1 7/16"	1 5/8"	2 3/4"	1-1/300, T&B		59.00
Acme	2 Syn	1 3/16"	1 7/16"	1 5/8"	2 3/4"	1-1/300, T&B	Full Sync.	101.00
Universal	3	1 3/8"	1 3/4"	1 5/16"	3 3/8"	1-1/150, T&B		43.00
Universal	3-X	1 3/8"	1 3/4"	1 5/16"	3 3/8"	1-1/150, T&B	X type	56.00
Acme	3	1 3/8"	1 3/4"	1 5/16"	3 3/8"	1-1/200, T&B		48.00
Acme	3 Syn	1 3/8"	1 3/4"	1 5/16"	3 3/8"	1-1/200, T&B	Full Sync.	87.30
Acme	4	1 3/4"	2 5/16"	2 1/2"	4"	1-1/150, T&B		53.00
Acme	4 Syn	1 3/4"	2 5/16"	2 1/2"	4"	1-1/150, T&B	Full Sync.	87.30
Universal	4-X	1 3/4"	2 5/16"	2 1/2"	4"	1-1/150, T&B	X type	58.20
Universal	5	2 1/2"	3"	3 1/4"	5"	1-1/50, T&B		48.00
Universal	5 Syn	2 1/2"	3"	3 1/4"	5"	1-1/50, T&B	Full Sync.	81.60
Universal	5-X	2 1/2"	3"	3 1/4"	5"	1-1/50, T&B	5-X	62.30
Wollensak Rapax								
#750	0	11/16"	7/8"	7/8"		1/2-1/400, T&B		35.00
#751	0	11/16"	7/8"	7/8"		1/2-1/400, T&B	X Sync.	40.00
#752	1	25/32"	31/32"	1 1/32"	2 1/16"	1-1/400, T&B		35.00
#753	1	25/32"	31/32"	1 1/32"	2 1/16"	1-1/400, T&B	X Sync.	45.00
#754	1	25/32"	31/32"	1 1/32"	2 1/16"	1-1/400, T&B	Full Sync.	58.00
#755	2	1"	1 1/4"	1 1/4"	2 1/2"	1-1/400, T&B		45.00
#756	2	1"	1 1/4"	1 1/4"	2 1/2"	1-1/400, T&B	X Sync.	54.00
#757	2	1"	1 1/4"	1 1/4"	2 1/2"	1-1/400, T&B	Full Sync.	68·00
#758	3	1 13/64"	1 35/64"	1 37/64"	2 5/8"	1-1/200, T&B		47.50
#759	3	1 13/64"	1 35/64"	1 37/64"	2 5/8"	1-1/200, T&B	X Sync.	55.00
#760	3	1 13/64"	1 35/64"	1 37/64"	2 7/8"	1-1/200, T&B	Full Sync.	75.00
Wollensak Alphax								
#775	0	35/64"	51/64"	55/64"		1/10-1/200		19.50
#776	0	35/64"	51/64"	55/64"		1/10-1/200	Sync.	21.50
#777	1	47/64"	15/16"	1 1/64"		1/10-1/200		19.50
#778	1	47/64"	15/16"	1 1/64"		1/10-1/200	Sync.	22.50
#779	2	1"	1 7/32"	1 7/32"	2 3/8"	1-1/100		37.50
#780	2	1"	1 7/32"	1 7/32"	2 3/8"	1-1/100	Sync.	41.50
#781	3	1 3/8"	1 51/64"	1 51/64"	3"	1-1/100		52.50
#782	3	1 3/8"	1 51/64"	1 51/64"	3"	1-1/100	Sync.	62.50
#783	4	1 11/16"	2 27/64"	2 27/64"	3 3/4"	1-1/50		56.00
#784	4	1 11/16"	2 27/64"	2 27/64"	3 3/4"	1-1/50	Sync.	62.50
#785	5	2 7/32"	2 15/16"	2 15/16"	4 3/4"	1/2-1/50		65.00
#786	5	2 7/32"	2 15/16"	2 15/16"	4 3/4"	1/2-1/50	Sync.	70.00

Mirror lenses— These systems involve reflecting surfaces as well as refracting surfaces.

Zoom lens— a lens system of continuously varying focal length, in which the image is held constantly in focus by mechanical means.

Anamorphic lens—This lens system gives a greater magnification in one meridian than in the other. This effect may be produced either by cylindrical lens surfaces or by refracting prisms.

Miscellaneous — This includes condensers, view-finders, rangefinders, eyepieces and loupes, lens attachments, microscope objectives, profile projectors, scanning systems, sound recording, reproducing and printing on film, unclassified photographic objectives.

Lenses for still cameras are either in a "barrel-mount" or in a shutter. Barrel-mount lenses may be mounted to a shutter or they may be used with auxiliary behind-the-lens shutters. These shutters come in a variety of sizes and types with and without synchronization. Our shutter chart on page 90 will be of great help in selecting the type of shutter needed, based on the shutter speeds available, types of flash synchronization and other mechanical considerations. We recommend that you consult our experts for the best combination of lens and shutter to meet your requirements.

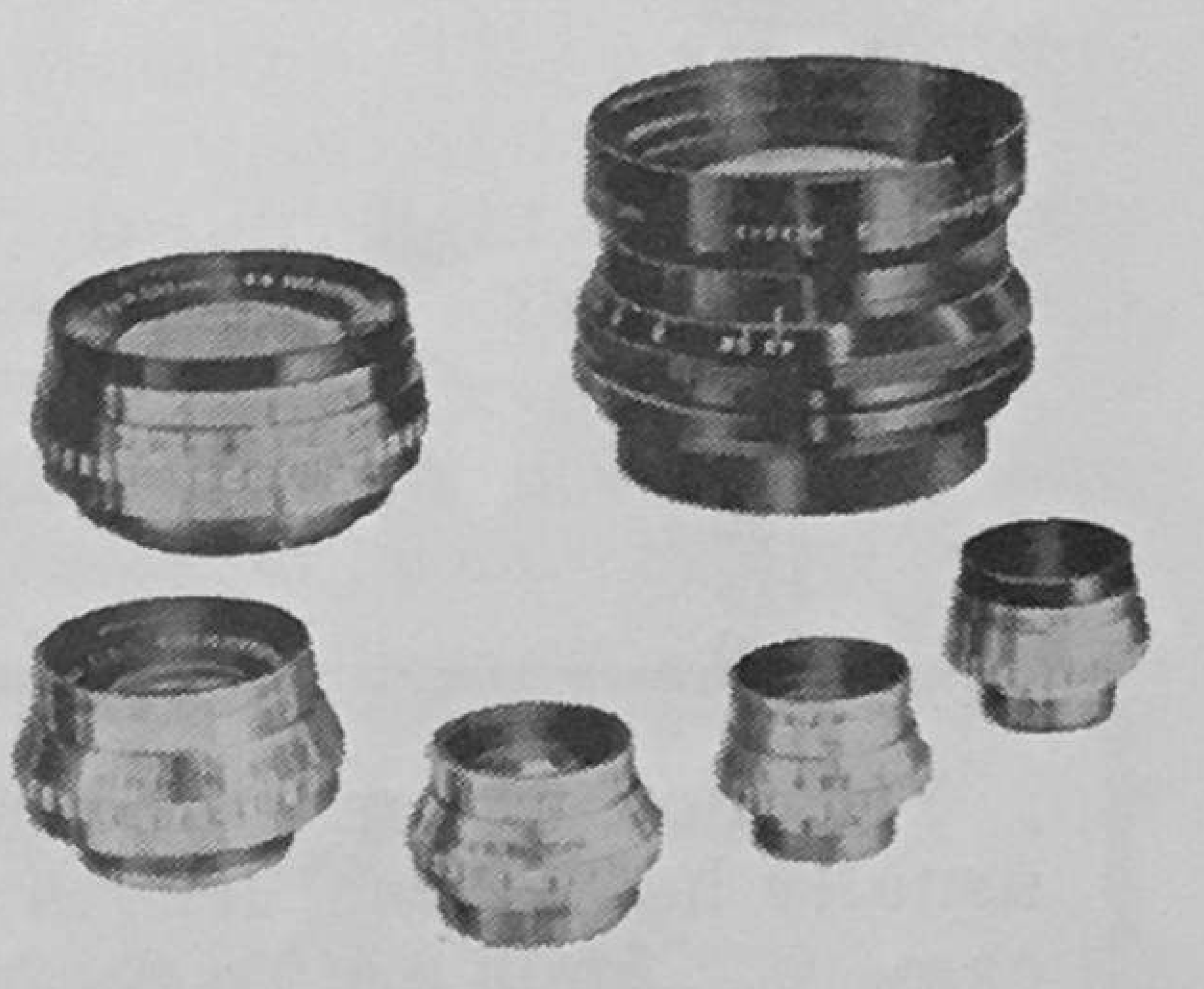
ENLARGING LENSES

Manufacturers' Name, Model, Catalog Number	Focal Length	Apertures from f/.... to f/....	Negative Size	Diameter of Lensboard Mounting Hole	Price
Elgeet					
E5045	51mm	4.5-22	1 x 1½″	.855″	$ 18.45
E9045	90mm	4.5-22	2¼ x 3¼″	1.155″	26.55
E9063	90mm	6.3-22	2¼ x 3¼″	.855″	18.45
E13545	135mm	4.5-22	4 x 5″	1.300″	39.20
E16245	162mm	4.5-22	4 x 5″	2.100″	56.75
E25445	254mm	4.5-32	6½ x 8½″	2.710″	118.00
Goerz					
Tri-Color Enlarging	5″	4.5-32	4 x 5″		195.00
Tri-Color Enlarging	7″	4.5-32	5 x 7″		290.00
Tri-Color Enlarging	10″	4.5-32	8 x 10″		385.00
Ilex					
Enlarging	51mm	4.5-32	1 x 1½″		28.50
Enlarging	76mm	4.5-32	2¼ x 2¼″		31.00
Enlarging	89mm	4.5-32	2¼ x 3¼″		32.50
Enlarging	103mm	4.5-32	2½ x 3½″		40.50
Enlarging	127mm	4.5-32	3¼ x 4¼″		45.00
Enlarging	140mm	4.5-32	3¼ x 4¼″		48.50
Enlarging	165mm	4.5-32	4 x 5″		60.00
Enlarging	191mm	4.5-32	5 x 7″		83.50
Enlarging	216mm	4.5-32	5 x 8″		126.00
Enlarging	254mm	4.5-32	6½ x 8½″		162.00
Enlarging	305mm	4.5-32	8 x 10″		216.00
Kodak					
Enlarging Ektanon	135mm	4.5-22	3¼ x 4¼″	1 25/32″	65.00
Enlarging Ektanon	161mm	4.5-22	4 x 5″	2 1/64″	75.00
Enlarging Ektar	2″	4.5-22	1 3/16 x 1 9/16″	1″	67.50
Enlarging Ektar	3″	4.5-22	2¼ x 2¼″	1 3/16″	72.50
Enlarging Ektar	3½″	4.5-22	2¼ x 3¼″	......	75.00
Enlarging Ektanon†	7½″	4.5-32	5 x 7″	2⅜″	105.00
Enlarging Ektanon†	10″	8-45	8 x 10″	2 5/32″	150.00
Enlarging Ektanon†	10″	4.5-32	8 x 10″	2⅞″	170.00
Joseph Schneider					
Componar ⊙	50mm	3.5-16	1 9/16 x 1 9/16″	34mm	34.95
Componar ⊙	50mm	4.5-16	1 9/16 x 1 9/16″	34mm	24.95
Componar	60mm	4.0-32	1⅝ x 1⅝″	27mm	37.50
Componar	75mm	3.5-22	2⅜ x 2⅜″	34mm	39.95
Componar	75mm	4.5-22	2⅜ x 2⅜″	34mm	34.50
Componar	105mm	4.5-22	2 9/16 x 3 9/16″	42mm	34.50
Componar	135mm	4.5-22	4 x 5″	50mm	54.50
Componon ⊙	50mm	4-16	1 9/16 x 1 9/16″	27mm	54.50
Componon	50mm	5.6-22	1x 1½″	27mm	54.50
Componon	60mm	5.6-32	1⅝ x 1⅝″	27mm	59.50
Componon	80mm	5.6-32	2¼ x 2¼″	27mm	59.50
Componon	105mm	5.6-45	2¼ x 3¼″	42mm	74.50
Componon	135mm	5.6-45	3½ x 4¾″	38mm	79.50
Componon	150mm	5.6-45	3½ x 4¾″	43mm	99.50
Componon	180mm	5.6-45	4 x 5″	43mm	114.50
Componon	210mm	5.6-45	5½ x 7½″	43mm	154.50
Componon	240mm	5.6-45	7½ x 9½″	53mm	189.50
Componon	300mm	5.6	8 x 10″		309.50
Wollensak Raptar					
#709	1″	4.5-	18 x 24mm		66.00
#710	2″	4.5-22	1¼ x 1⅝″	1 3/16″	32.50
#711	3″	4.5-32	2¼ x 2¼″	1 3/16″	34.50
#712	3½″	4.5-32	2¼ x 3¼″	1 3/16″	36.00
#713	4″	4.5-32	2¼ x 3¼″	1 3/16″	41.50
#714	5″	4.5-45	3¼ x 4¼″	1 21/64″	51.00
#715	5⅜″	4.5-32	4 x 5″	1 19/32″	54.50
#716	6⅜″	4.5-32	4 x 5″	2″	69.00
#717	7½″	4.5-32	5x 7″	2¼″	96.50
#718	8¼″	4.5-32	5 x 8″	2⅝″	146.00
#719	9½″	4.5-32	6½ x 8½″	2⅝″	181.50
#720	11⅞″	4.5-32	8 x 10″	3⅛″	248.00
Wollensak Pro-Raptar					
#721	2″	4.0-	1¼ x 1⅝″		69.00
#722	3½″	4.5-	2¼ x 3¼″		74.50
#723	4″	5.6-	2¼ x 3¼″		78.50
#724	5⅜″	5.6-	4 x 5″		86.00
#725	6⅜″	5.6-	4 x 5″		105.00
#726	7½″	5.6-	5 x 7″		140.00

† Supplied in Barrel ⊙ Also available in Leicamount

enlarging lenses

ELGEET ENLARGING LENSES are fully color-corrected; "Elcoted" for increased image brilliance. Available in focal lengths from 51mm to 254mm. Most models have click stops. See chart for prices.



WOLLENSAK RAPTAR ENLARGING LENSES produce crisp, brilliant enlargements, capture all the tonal qualities and detail of the negative, were designed for working from a flat field at a short range, projecting from flat surface to flat surface. Exceptionally well corrected and 'Wocoted,' they are available in a complete range of focal lengths from 1″ to 11⅞″ in diaphragm barrel. Raptar f/4.5 Wocoted lenses available are: 1″, (18 x 24mm); 2″, (1¼x1⅝″); 3″, (2¼x2¼″); 3½″, (2¼x3¼″); 4″, (2¼x3¼″); 5″, (3¼x4¼″); 5⅜″, (4x 5″); 6⅜″, (4x5″); 7½″, (5x7″); 8¼″, (5x8″); 9½″, (6½x8½″); 11⅞″, (8x 10″). See chart for prices and specifications. **PRO-RAPTAR SERIES**

specifications. **PRO-RAPTAR SERIES** **ENLARGING LENSES** for exacting and curvature-free, give high contrast, extra fine resolution and are made from a new optical formula and a high index glass (6-elements). Models available are: 2″, f/4, (1¼x1⅝″); 3½″, f/4.5, (2¼x3¼″); 4″, f/5.6, (2¼x 3¼″); 5⅜″, f/5.6, (4x5″); 6⅜″, f/5.5, (4x5″); 7½″, f/5.6, (5x7″). All lenses in barrel with click stops. See chart for prices and specifications.

MOTION PICTURE LENSES

Motion picture lenses can be divided into three main categories: normal, wide-angle and long-focus or telephoto. Focal length and angle of view determines the lens category.

Lenses for motion picture photography cover a narrower angle of view than lenses of the same focal length designed for still photography. An angular field (diagonal) of only 28° to 30° is generally provided by a movie lens of standard focal length. Motion picture wide-angle lenses only cover a 40° to 42° field, which is less than the coverage provided by a standard lens in still photography.

The angle of view naturally varies with the focal length of the lens. Here below are the angles of view for movie lenses from 24-200mm in focal length (both vertical and horizontal angles are given):

focal length	horizontal angle	vertical angle
24mm	49.3°	36.9°
25	47.5	35.5
28	42.9	31.9
32	37.9	28.1
35	35.0	25.7
40	30.8	22.7
50	25.0	18.3
60	20.8	15.2
75	16.7	12.2
100	12.6	9.1
110	11.4	8.3
120	10.5	7.6
125	10.1	7.2
135	9.3	6.8
150	8.4	6.1
175	7.2	5.2
200	6.3	4.6

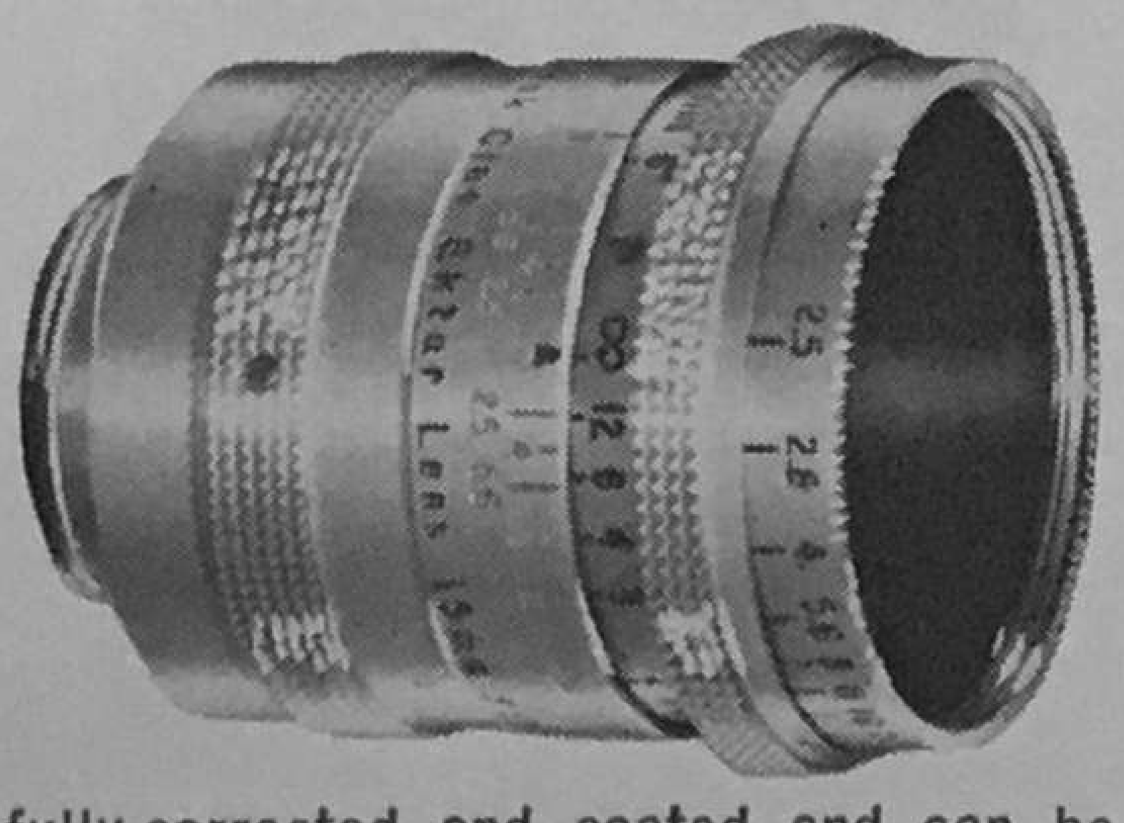
The normal or standard lens for an 8mm camera usually has a focal length of 13mm (½"); for a 16mm camera, 25mm (1"); for a 35mm sound or silent camera, 50mm (2").

A wide-angle for an 8mm camera can have a focal length from 5.5mm to 9mm; for a 16mm camera, 13mm to 17mm; for a 35mm camera, 28mm (1"). Wide-angles of slightly longer or shorter focal lengths are also available, providing a wider or narrower angle of view.

Long-focus lenses, especially for 35mm cameras, come in many lengths. Many of the lenses manufactured for 35mm miniature still cameras come with special mounts or adapters, so that they can be fitted to 35mm motion picture cameras.

We carry a full line of Kodak Cine Ektar Lenses in Type S mounts from 15mm f/2.5 wide-angle to 152mm f/4, $105 to $160; in Type C mounts from $90 to $160. In addition we have a complete stock of other lenses in varying focal lengths to meet all your cine needs.

KODAK LENSES for still, movie and process photography are available in a variety of types and mounts. Cine lenses for 8mm and 16mm cameras are



fully-corrected and coated and can be easily adapted to fit most cameras. For prices and specifications, see charts.

KODAK CINE LENS ADAPTERS—Permit use of auxiliary lenses. For use with Kodak Cine Lenses having Type S mount. Type C for Cine-Kodak K-100 and 16mm cameras with standard Type C threaded lens mount, **$10.50.** Type M for Cine-Kodak Royal Magazine Camera and Cine-Kodak Magazine 8 and 16 cameras, **$12.25**

optical comparator

NIKON OPTICAL COMPARATOR is a unique microscopic projector which provides a detailed, enlarged image of a variety of objects. Adaptable for industry, scientific study or production controls. Operator may sit in front of unit and observe magnified outline of object as it is projected on ground glass viewing screen; permits viewing of object by several observers simultaneously. Measurement of dimensions of magnified image can be taken on viewing screen, actual size of object can be computed with high accuracy. Simplifies task of measuring and inspecting objects of irregular shape; master chart is placed on viewing screen, on which projected image is overlapped and compared. Vertical or oblique reflection illumination is provided for observation of surface details, for metallurgical microscopy. Three different projection lenses on revolving turret provide quick change of magnification. Viewing screen, 300mm diameter; glass stage, 110mm. From **$595**

care of lenses

A photographic lens is a precise optical instrument which gives a lifetime of service, if common sense precautions are observed.

Do not wipe lenses carelessly with hankerchief or tissue paper. To remove dust, grit, sand, etc., brush lenses with a fine camel's hair brush. Should fingerprints or grease spots show on the lens surface, remove them in the following manner:

Dip a swab of soft, clean linen lightly in pure grain alcohol or ether and clean the lens gently. Avoid touching the lacquered metal rims or mounts, as the chemicals may affect the lacquer.

To polish the lens, use a soft, clean, lintless cloth or good quality lens tissue.

Keep your lenses covered, to protect them from excessive heat, humidity and the elements; also from chemical and industrial fumes, salt spray, sand, etc. Use lens caps on both front and rear elements when lens is not on camera, to guard against dust and other dangers. Avoid also sudden shock and temperature change. Lenses, especially those with cemented elements, should not be excessively exposed to high temperature for prolonged periods of time. Where available by all means use cases for your interchangeable lenses—they're well worth the small investment.

Should it be necessary to unscrew the lens elements from the mount, be certain to replace them correctly. Thread them back carefully. Do not tighten to an extreme point, yet be sure to replace elements securely, to prevent a loose fit. Even a trifling maladjustment may throw your lens out of line.

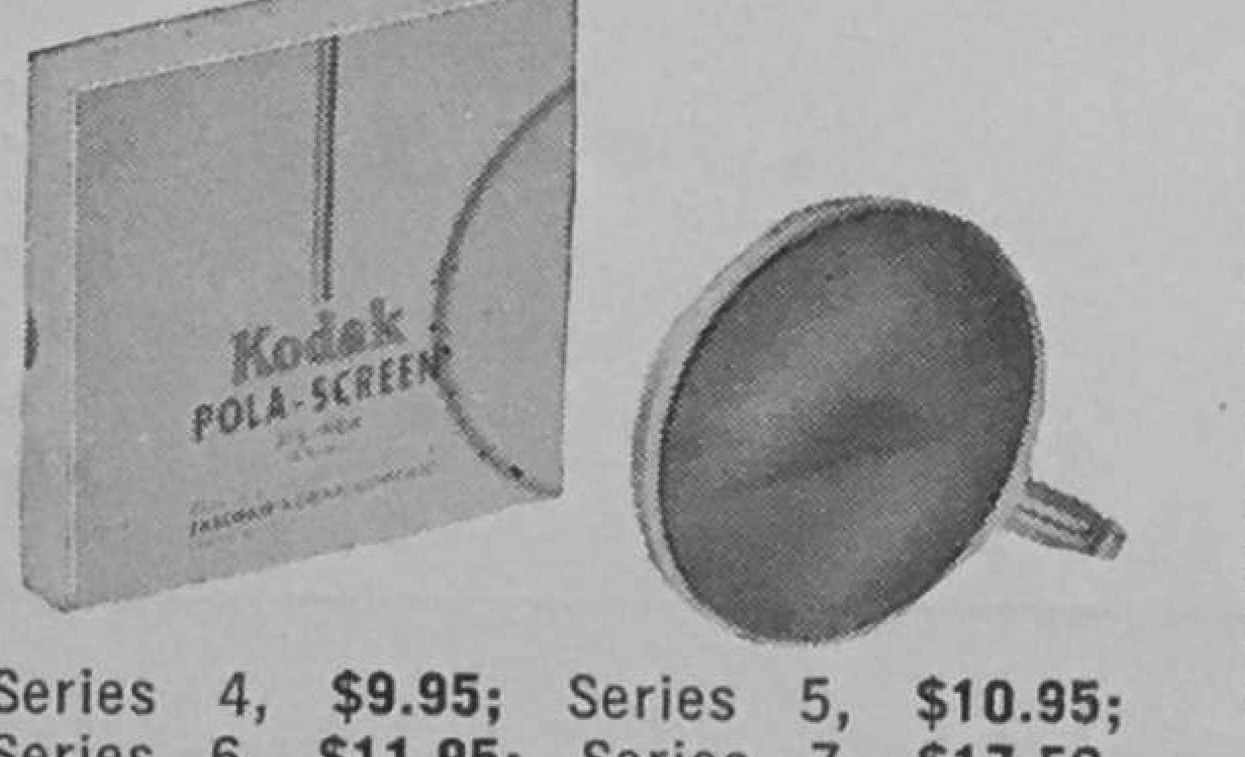
Movie lenses are usually "set" at the factory, so they are in accurate focus for a particular make of camera. If you know your lens is in correct focus for a given distance and your negatives are not critically sharp, the tolerance is out and both lens and camera need proper factory adjustment.

Bring your lenses to us for expert handling and service.

FILTERS AND LENS ATTACHMENTS

filters

KODAK POLA-SCREEN AND VIEWER COMBINATION is used to control blue skies. In either color or black-and-white work, the sky tone can be darkened without the colors or contrast of the rest of the picture being altered. Also subdues glare and undesirable reflections from glass, water, sand and other nonmetallic surfaces.



Series 4, **$9.95;** Series 5, **$10.95;** Series 6, **$11.95;** Series 7, **$17.50.** Kodak Pola-Screen 3½ inch, **$24.50.** Kodak Pola-Screen Holder, Model B a holder, including lens hood, which allows the use of a Pola-Screen and a filter at the same time. Pola-Screen size—3½ inches; lens diameter fitted —3 to 4½ inches, **$40**

KODAK CLOUD FILTER. An inexpensive yellow glass filter which brings out clouds in their true contrast. For use with simple cameras with 1⅛, 1-5/16 or 1-inch lens-mount diameters. Supplied in a slip-on type metal cell. **$2.15**

KODAK SPECIAL FILTERS. Wratten Ultra-Violet Filter, No. 18A (glass only), 2-inch square, **$12.50. Wratten Duplicating Filter, No. 39** (glass only), 2-inch square, **$12.50;** 3-inch square, **$20.** **Kodak Infrared Cut-Off Filter, No. 301** (glass only), 2-inch square, **$25;** 3-inch square, **$42.50. Wratten Neutral Density Filter, No. 96** (gelatine film), 2-inch square, **$1.20;** 3-inch square, **$2**

Density	% Transmission	Density	% Transmission
.10	80.0	.60	25.0
.20	63.0	.70	20.0
.30	50.0	.80	16.0
.40	40.0	.90	13.0
.50	32.0	1.00	10.0

lens attachments

KODAK CLOSE-UP ATTACHMENT provides an inexpensive means of adapting simple cameras for taking close-ups to 3½ ft. Mounted in a special metal slip-on cell. Attachment fits easily over

camera lens to provide large, sharp images. Can be used indoors and outdoors, with color and black-and-white film. #3, 23.5mm mount diameter; #6A, 28.5mm; #7A, 33mm; or #13, 25.5mm, each, **$2.15**

KODAK TELEK LENSES. These lenses produce telephoto effects by increasing the focal length of the camera lens. Only for cameras with ground-glass back and double-extension bellows or its equivalent. Series 6 & 7. From **$3.75**

KODAK GELATIN FILTER FRAME HOLDER makes it possible to use gelatin filters on any camera accepting an adapter ring. Series 6, for use with 2-inch square, **$2.50**; Series 8, for use with 3-inch square, **$3.75**; Series 9, for use with 4-inch square Gelatin Filter Frame (or Kodak Wratten Filter in "B" glass), **$7.75.** Other series adapter rings fitted by means of Kodak Step-Up Rings.

KODAK GELATIN FILTER FRAME is two-part, pressed metal frame which holds square gelatin filters, making them easier to handle and store. Normally used with the Kodak Gelatin Filter Frame Holder, but can also be used for enlargers with a holder which accepts "B" Glass filters. The 4-inch frame can also be used in the Kodak Adjustable Filter Holder. 2-inch square, **95¢**; 3-inch square, **95¢**; 4-inch square, **$2.75**

KODAK PORTRA LENSES are used for making close-ups of people, flowers, insects, and small subjects with still or movie cameras. They also provide wide-angle and close-up effects when used on cameras that have double-extension bellows. Portra lenses can be used singly or in combination; using Kodak Portra Lenses 2 and 3 together, for example, gives the effect of a 5 lens, which allows the camera to be as close as eight inches to the subject. A table of distance is supplied with each lens. Series 4 **$2.65;** Series 5, **$2.95**; Series 6 **$3.75**; Series 7 **$5.95**

KODAK ADJUSTABLE FILTER HOLDER securely attaches a 4-inch Wratten Filter in "B" Glass to any lens barrel in dimensions given below. Also accommodates Gelatin Film Filters in a Kodak Gelatin Filter Frame (4-inch size only). 4-inch square, for lens mount 2⅜ to 3⅞, **$15**

KEITH 3" ADJUSTABLE FILTER HOLDER holds 3" filters mounted in filter frames or 3" filters in glass. Filters held solidly by tempered springs. May be positioned or removed, by use of adjustable thumb screw, in one second. **$10**

HARRISON & HARRISON VIEWING GLASSES permit you to "see" how any filter will affect the picture and to evaluate highlights and shadows. Viewing Glass with Neck Cord. **$6.50**

Filter Facts

Absorption Curves — These curves plot filter density against the wavelength of the light. They show the wavelength of maximum transmission as well as amounts of other colors transmitted.

Spectrum Filters—Used in scientific work. These contrast filters transmit only a narrow wavelength band. In effect they only transmit one color.

Neutral Density Filters— These are used to cut down light uniformly across the spectrum. They are invaluable when shooting outdoors in bright light with the very fast films. They are also used to achieve special night effects with both black and white or color films.

KODAK WRATTEN FILTERS FOR BLACK & WHITE AND COLOR

For	Available Types‡
Black & White Films	Light Yellow: No. 6 (K2), No. 3 (Aero No. 1) Yellow: No. 8 (K2), No. 4 Deep Yellow: No. 9 (K3), No. 15 (G) Yellowish-Green: No. 11 (X1) Dark Yellowish-Green: No. 13(X2) Light Green: No. 66 Green: No. 58 (B) Light Red: No. 23A Red: No. 25 (A) Deep Red: No. 29 (F) Blue: No. 47 (C5) Monochromatic Viewing Filter: No. 90 Neutral Gray: ND-2*, ND-3 * Special order only.
Kodachrome & Ektachrome Films	**For Normal Photographic Purposes:** Kodak Skylight Filter (Wratten No. 1A) Kodak Photoflood Filter for Kodak Daylight Type Color Films—No. 80B Kodak Photoflash Filter for Kodak Daylight Type Color Films—No. 80C Kodak Daylight Filter for Kodak Type A Color Films—No. 85 Kodak Daylight Filter for Kodak Type B Color Films—No. 85B Kodak Daylight Filter for Kodak Type F Color Films—No. 85C **Color Compensating ("CC"):** Yellow: CCO5Y, 10Y, 20Y, 30Y, 40Y, 50Y Magenta: CCO5M, 10M, 20M, 30M, 40M, 50M Cyan: CCO5C, 10C, 20C, 30C, 40C, 50C Red: CCO5R, 10R, 20R, 30R, 40R, 50R Green: CCO5G, 10G, 20G, 30G, 40G, 50G Blue: CCO5B, 10B, 20B, 30B, 40B, 50B **Light Balancing:** Bluish: #82, 82A, 82B, 82C Yellowish: #81, 81A, 81B, 81C, 81D, 81EF

PRICES

Stock Sizes	Gelatin Film Squares	"B" Glass Circles or Squares	Adjustable Filter Holder (4" Filters in "B" Glass)		Gelatin Filter Frame
2"	**$0.60**	**$ 6.50**	**4" $15.00****	2"	**$0.95**
3"	**1.00**	**9.00**		3"	**0.95**
4"	**2.80**	**12.50**		4"	**2.75**
5"	**3.70***	**31.00***			

Kodak Wratten Filters in "B" Glass for Series Adapter Rings

	1A, K2, A, X1, G, 80C, 80B, 85, 85B and 85C	Color Compensating ("C") ND-3 and all other standard Kodak Wratten Filters		Gelatin Filter Frame Holder (also holds filters in "B" Glass)
Series 4	**$ 2.25**	**$ 3.95**	Series 6	**$2.50**
Series 5	**2.50**	**4.50**	Series 8	**3.75**
Series 6	**2.95**	**4.95**	Series 9	**7.75**
Series 7	**5.50**	**5.50**		
Series 8	**8.50**	**8.50**		
Series 9	**12.50**	**12.50**		

Prices subject to change without notice.

*—Special orders only. ** For Lens Mounts 2⅜" to 3⅞".

‡ Kodak Wratten Filters are available in more than one hundred varieties—For a complete listing consult the manual "Kodak Wratten Filters for Scientific and Technical Use".

KODAK FILTERS FOR SCIENTIFIC & TECHNICAL USERS

For	Available Types	Prices
Visual Work with Microscope	**Wratten Visual M:** Blue: 78AA; 38A Blue-Green: 45A Light Green: 66 Green: 58 Deep Yellow: 15 Yellow-Orange: 22 Red: 25 Neutral: 96	33mm thin "B" Glass Circle **$5.20***
General Photo-micrography	**Filters for Microscopy:** Orange-Red: 25 Green: 58 Blue: 47 Purple: 35 Yellow-Orange: 22 Deep Red: 29 Deep Yellow: 15 Blue: 45 Yellowish Green: 11	See (A) below
Visual Work with Photometer	**Wratten Photometric:** #78 Series (Bluish); #78, 78AA, 78A, 78B, 78C #86 Series (Yellowish): #86, 86A, 86B, 86C, Dummy (for setting 0°)	See (B) below
Color Differentiation in Microscopy (Used in Microscope Condenser)	**Wratten Rheinberg Differential Color Filters:** Central Disk-Stops: Blue, Green, Red, Purple, White Matte, Greenish-Blue, Black Peripheral Ring-Stops: Red, Blue-Green, Orange, Blue Sector-Stop: Red and Blue Combination	Sold separately: **$6.50*** **6.50*** **10.50***
Mercury-Vapor Lamps	**Mercury Monochromats:** #22, 50, 74, 77, 77A, 18A	See (C) below
Anaglyphs	**Viewing Filters:** Stereo Red: #26 Stereo Green: #55	See (D) below

PRICES

(A) Filters for Microscopy

	Gelatin	"B" Glass
2" Square	**$ .60***	**$6.50***
3" "	**1.00***	**9.00***

(C) Mercury Monochromats

Filter No.	2" Sq. Gelatin	2" Sq. "B" Glass
22	**$0.60***	**$ 6.50***
50	**0.60***	**6.50***
74	**0.60***	**6.50***
77	—	**20.00***
77A	—	**24.00***

(B) Wratten Photometric

	Gelatin	"B" Glass
2"	**$1.20**	**$ 7.10***
3"	**2.00**	**10.00***

(D) Viewing Filters

Square	Gelatin (Film Squares)	"B" Glass (Circles or Squares)
2"	**$0.60***	**$ 6.50***
3"	**1.00***	**9.00***
4"	**2.80***	**12.50***
5"	**3.70***	**31.00***

*—Special order only

Film and Filter Combinations for Photographing Colors in Black-and-White

TO PHOTOGRAPH AS BLACK ON			Color of Original	TO PHOTOGRAPH AS WHITE ON		
Blue-Sensitive Material	Ortho Material	Panchromatic Material		Blue-Sensitive Material	Ortho Material	Panchromatic Material
(KODAK WRATTEN FILTERS TO USE)				(KODAK WRATTEN FILTERS TO USE)		
Not Recommended	Yellow (No. 8) Green (No. 58)	Green (No. 58)	**Magenta**	None	Blue (No. 47) Magenta (No. 30)	Red (No. 25) Magenta (No. 30) Blue (No. 47)
None	None or Green (No. 58)	Green (No. 58) Blue (No. 47)	**Red**	Not Recommended	Not Recommended	Red (No. 25)
None	Blue (No. 47) Magenta (No. 30)	Blue (No. 47)	**Yellow**	Not Recommended	Yellow (No. 8) Green (No. 58)	Yellow (No. 8) Green (No. 58) Red (No. 25)
None	Blue (No. 47) Magenta (No. 30)	Red (No. 25) Blue (No. 47) Magenta (No. 30)	**Green**	Not Recommended	Yellow (No. 8) Green (No. 58)	Green (No. 58)
Not Recommended	Not Recommended	Red (No. 25)	**Cyan**	None	None Green (No. 58) Blue (No. 47) Magenta (No. 30)	Green (No. 58) Blue (No. 47)
Not Recommended	Yellow (No. 8) Orange (No. 16) Green (No. 58)	Green (No. 58) Red (No. 25)	**Blue-Violet**	None	Blue (No. 47) Magenta (No. 30.)	Blue (No. 47)

NOTE: These are not the only filters which can be used to produce the desired effects. Practical experience will show which variations of the suggested filters can be used with certain hues of the original colors.

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SEE FILTER SECTION FOR ADDITIONAL INFORMATION.

Use of Kodak Filters with Kodak Reversal Color Films

LIGHTING CONDITIONS	Kodachrome and Kodak Ektachrome Films DAYLIGHT TYPE	Kodachrome Professional Film TYPE A	Kodak Ektachrome Film TYPE B	Kodachrome and Kodak Ektachrome Films TYPE F
Daylight. Clear or hazy sun casting sharp or soft shadows.	No filter needed	Daylight Filter for Kodak Type A Color Films (No. 85)	Daylight Filter for Kodak Type B Color Films (No. 85B)	Daylight Filter for Kodak Type F Color Films (No. 85C)
Daylight. Bluish—open shade or overcast. No shadows.	Skylight (No. 1A)	No. 85	No. 85B	No. 85C
Daylight. Distant scenes, mountain and aerial photography.	Skylight (No. 1A)	No. 85	No. 85B	No. 85C
Electronic Flash Tubes (in new portable units)	See Data Sheet	Not recommended	Not recommended†	Not recommended
Blue Flash Bulbs	No filter needed	Not recommended	Not recommended	Not recommended
Blue Photoflood Lamps	Not recommended	Not recommended	Not recommended	Not recommended
Photoflood Lamps	Photoflood Filter for Kodak Daylight Type Color Films (No. 80B)*	No filter needed	Light Balancing No. 81A	Light Blancing No. 82A
3200 K Lamps	No. 80B + No. 82A*	No. 82A	No filter needed	Light Balancing No. 82C
Clear Flash Bulbs (except SM and SF)	Photoflash Filter for Kodak Daylight Type Color Films (No. 80C)	Light Balancing No. 81C	No. 81C (see film instructions)	No filter needed
SM and SF Flash Bulbs	Not recommended	No filter needed	Not recommended	Light Balancing No. 82B

*These light sources are not recommended for use with Kodak High Speed Ektachrome Film, Daylight Type, or films designated for Process E-3.

†With Kodak High Speed Ektachrome Film, Type B, use a No. 85B filter.

Kodacolor Film is intended for exposure in daylight or with clear flash bulbs and does not require the use of filters with these light sources. However, either source should be used alone, not mixed with illumination differing in color quality. Blue flash bulbs should not be used indoors as the sole light source, but they are recommended for softening shadows when nearby subjects are photographed in bright sunlight.

Kodak Ektacolor Film, Type L (long exposure), is balanced for exposure with 3200 K lamps. Filter suggestions for other commonly used light sources are packaged with the film. Filter suggestions for Type S (short exposure) film are also given in the instructions packaged with the film.

THE FILTER STORY

Filters are extremely useful in commercial photography. Some of the many applications and recommended filters for black-and-white film are:

Architecture. When photographing light-colored buildings against a blue sky, use a yellow (K2) filter to separate the building and sky; use a deep yellow (G) filter for greater contrast between building and sky; use a red (A) filter to darken the sky. Another way to darken the sky with any of the aforemntioned filters is to add a polarizing filter. When photographing red brick buildings, use a deep yellow (G) filter to lighten the building tone to show texture. To subdue reflections from roofs and windows, use a polarizing filter.

Automobiles. When you want to lighten the tone of a dark-colored car to show its shape and detail, use a filter similar in color to that of the car. If the car is two-toned, use the filter that matches the color of the tone you want to lighten. To increase contrast between lettering and signs on trucks and other vehicles for greater legibility, use a filter that is the same color as that of the lettering but turns the background area around it dark or darker than it is. To eliminate or subdue reflections from lacquered or highly polished surfaces, use a polarizing filter.

Colored china, glass, plastics, pottery, tile mosaics. For a natural (correct monochromatic) rendering — that matches most closely the daylight color response of the eye—use a yellow (K2) filter with Type B panchromatic emulsions in daylight, a light green (X1) filter in tungsten light, use a light green filter with Type C panchromatic materials in daylight, a green (X2) filter in tungsten light. To avoid or subdue reflections, use polarizing filters at light sources and lens.

Fabrics, clothing, tapestries, upholstered furniture. For a natural rendering, use the same recommendations given for colored china, etc., above. For contrast to show pattern or indicate color contrast, select the color which can be lightened or darkened. If the color is to be lightened, use a filter that matches it in color; if it is to be darkened, use a filter that absorbs the color (does not permit it to pass through). To lighten a dark color to show texture, use a filter similar in color to that of the material.

Furniture. To obtain the best rendering of the grain of red woods such as mahogany and rosewood, use a red (A) filter. For yellow woods and others such as maple, walnut and oak, use a deep yellow (G) filter with commercial orthochromatic film. For wood furniture combined with other colors such as room setting, use a yellow (K2) or deep yellow (G) filter.

Leather, linoleum and wallpaper. To obtain a natural rendering, use the same recommendations given for colored china, etc. For contrast to show pattern or indicate color contrast, use same recommendations given for fabrics, clothing, etc. To lighten color of leather so image of chromium or other metal details will print, use a filter similar in color to that of the leather. To subdue reflections from linoleum that obscure the pattern, use a polarizing filter.

Packages. To separate light reds from other colors, use a light green (X1) or yellow (K2) filter. To make lettering more readable, or to separate various colored parts of the package design, use the recommendations given under automobiles. To penetrate colored acetate sheets to show material or detail within the package, use a filter similar in color to that of the acetate sheet. To subdue or eliminate reflections from clear acetate sheets, use a polarizing filter.

The preceding recommendations naturally are for indoor photography. Some applications of filters for outdoor photography with black-and-white film follow:

Clouds. Against a blue sky used as a background for other subjects, use a yellow (K2) filter to get a natural effect, a deep yellow (G) filter to darken the sky, a red (A) filter to darken it with a spectacular effect, a darker red (F) filter to turn it almost completely black. To get a night effect, use a red (A) filter plus a polarizing filter or an A and F filter with infrared film.

Marine scenes. When the sky is blue, use a yellow (K2) filter for natural rendering, a deep yellow (G) filter to turn water dark.

Sunsets. Use a yellow (K2) filter to get a natural effect; use a deep yellow (G) or a red (A) filter to increase the brilliance of the sunset.

Distant landscapes. If you want to add haze for atmospheric effects, use a blue (C5) filter. For a natural effect, use a yellow (K2) filter. To reduce haze somewhat, use a deep yellow (G) filter; to reduce it more, use a red (A) or deeper red (F) filter; to eliminate it, use an A or F filter with Infrared film.

Nearby foliage. For a natural rendering, use a yellow (K2) or light green (X1) filter. To lighten it, use a green (B) filter, or deep yellow (G) filter with panchromatic film.

Outdoor portraits. Against colors to show detail, use a blue (C5) filter. To lighten foliage plants to show detail, use a green (B) filter, or a deep yellow (G) filter with panchromatic film.

Flowers. To render blossoms and foliage naturally, use a yellow (K2) or light green (X1) filter. To lighten red, bronze, orange and similar colors to show detail, use a red (A) filter. To lighten dark blue, purple and similar colors to show detail, use a blue (C5) filter. To lighten foliage plants to show detail, use a green (B) filter, or a deep yellow (G) filter with panchromatic film.

Architectural stone, wood, fabrics, sand and snow. Use a yellow (K2) filter to get a natural rendering; use a deep yellow (G) or red (A) filter to enhance texture.

The effect of filters for black-and-white film varies with the type of film used, of course. The above recommendations have been given for panchromatic films, unless otherwise stated.

The industrial photographer, however, must be ready to meet all situations and use various types of film. The following guide to monochromatic rendering of a clear blue sky with various types of film and filters will be of help in anticipating results. Non-color-sensitized, orthochromatic and panchromatic films render the sky lighter than correct without a filter. Orthochromatic and panchromatic films render the sky just about correct with a yellow (K2) filter. Panchromatic film renders the sky darker than correct with a deep yellow (G) filter, very dark with a red (A) filter, almost black with a deep red (F) filter. Infrared film renders the sky black with a red filter (A).

Color photography. The filters commonly used in black-and-white photography cannot be used in the exposure of color films.

There are, however, a number of conditions under which good color rendering can be secured only by the use of a correcting filter. For this reason, filter manufacturers offer several series of filters designed to fill almost any need which may arise.

Light Balancing Filters change the color quality of the exposing light in order to secure color balance with artificial-light films. Color Compensating Filters are used to make balance of results obtained with color films, and to compensate for deficiency in the quality of the light. They can be used singly, or in combination to obtain almost any correction.

filter guides

KODAK CC FILTER DATA-GUIDE, $2

KODAK FILTERS AND POLA-SCREENS, 50¢

KODAK WRATTEN FILTERS for scientific and technical use, **75¢**

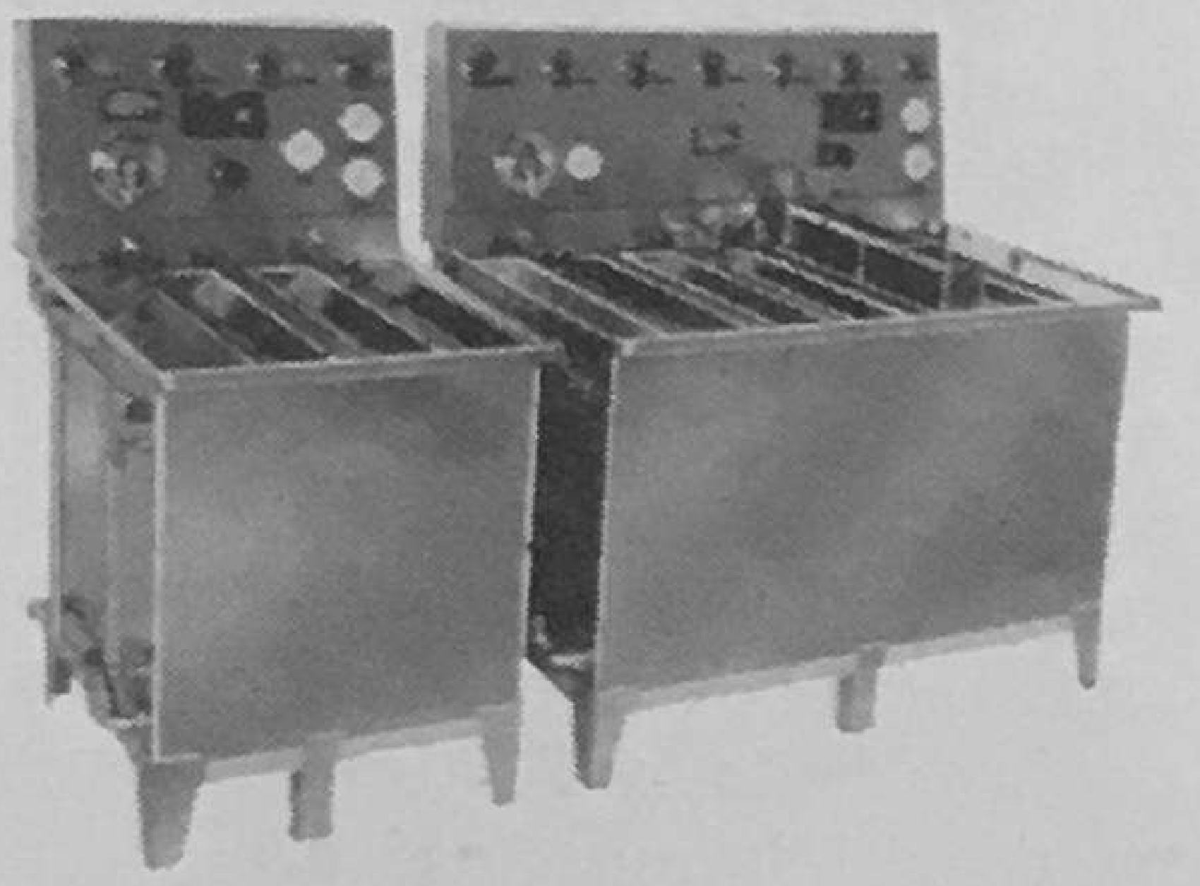
KODAK LENSES AND COMBINATION LENS ATTACHMENTS

Series	Filter Diameter Inches	Adapter Rings	Retaining Rings	Step-up-Rings		Lens Hoods	Portra Lenses			Telek Lenses				Pola-Screen and Viewer
							1+	2+	3+	1—	2—	3—	4—	
4	13/16	$1.60	$1.00	4 to 5	$1.95	$1.75	$2.65	$2.65	$2.35					$ 9.95
5	1 3/16	2.25	1.00	5 to 6	1.95	1.95	2.95	2.95	2.95					10.95
6	1 5/8	2.75	1.25	6 to 7	2.95	2.50	3.75	3.75	3.75	$3.75	$3.75	$3.75	$3.75	11.95
7	2	5.00	1.95	7 to 8	4.50	4.95	5.95	5.95		5.95	5.95	5.95	5.95	17.50
8	2 1/2	7.50	3.95			6.95								

PROCESSING EQUIPMENT

commercial tanks & processors

ROLOR COLOR PROCESSORS are compact integrated units. Master water jackets, supports & tanks are made of heavy gauge, Type 316 S.S. that is heli-arc welded and passivated. All bleach tanks and drains are of extra heavy gauge Red Brass that is also heli-arc welded and passivated. All processors have the integral controls and instruments including timers, agitation systems and water temp. controls necessary for efficient operation. **MODEL 35-5 COLOR PRINT PROCESSOR** uses only 3½ gal. solutions to quantity process 8-14x17″ or 16x20″ prints, **$3,050. MODEL CL-1 COLOR LABORATORY** will process color negatives in rolls or sheets up to 8x10″ plus color paper and print film up to 16x20″. Can do 9 rolls 120 or 15 rolls 35mm or 28-4x5″ sheet films per run, **$3,895.**



"PRO-10" 16x20 COLOR PRINT PROCESSOR uses 10 gal. inserts and will accept 22-16x20″ prints, **$5,125. SPLIT-C COLOR PRINT PROCESSOR MODEL 20-10P** is used for the custom production of Kodak Ektacolor or similar paper in sizes up to 16x20″. With optional auto. replenishment system, as many as four runs may be performed in 90 minutes. This produces 88-16x20″ or 352-8x10″ prints at the output rate of one 18x20″ or four 8x10″ prints per min., **$8,495. MODEL 24-10P SPLIT-C 20x24 COLOR PRINT PROCESSOR** uses 10 gal. inserts yet accommodates up to 18-20x24″ prints and with the 24R print rack will process 3 prints up to 24x36″, **$9,450. MODEL 24-25P SPLIT-C** PRINT PROCESSOR uses 25 gal. inserts and can process up to 30-20x24″ prints and with print carry rack 4R can process up to 4-24x36″ prints, **$12,500. REEL-C COLOR PRINT PROCESSOR MODEL 20-17P** uses 17 gal. solutions and processes up to 30-16x20″ sheets and up to 6-20′ lengths of 8″ roll paper, **$9,695. ROLL PAPER COLOR PROCESSOR MODEL PF-1** uses 3½ gal. solutions and can process multiple 20′ lengths of paper in 2¾, 3½, 5 or 8″ widths, **$4,195**

ROLOR CHEMICAL SOLUTION TANKS are made of heavy gauge, satin finished Type 316 S.S. that is heli-arc welded and passivated for maximum chemical resistance. Have handle-fitted covers. **MODEL LT-9**, 3½ gals., has built-up sides and extended lips on the short dimension to contain solutions upon burst upheavals. **$52; MODEL T-8**, as above, but with straight sides, **$49.50; MODEL T-6**, 2 gal., **$47**

ROLOR 3½ GALLON WASH TANK is overflow type to complement the LT-9 LT-9B tanks. Made of Type 316 S.S., heli-arc welded and passivated. Has built up sides and extended lips along short dimension. Lips have covered downspouts. Has efficient bottom water distributor. With 4′ of ½″ OD entry tubing, **$85**

ROLOR BLEACH TANKS are made of heli-arc welded Red Brass, & have handle-fitted covers. **MODEL LT-9B** has built-up sides and extended lips on the short dimension to contain solutions upon burst upheavals. 3½ gal., **$65.50; MODEL T-8B** as above, but straight sides, **$60; MODEL T-6B,** 2 gal., **$59.50**

ACE HARD RUBBER TANKS are non-porous, chip-proof, non-corrosive, easy to clean and will withstand plenty of rough handling. May be used interchangeably for 5x7 or 8x10 negatives. Deluxe model #2179, 11x11x12″, **$14 45;** light-proof cover **$5.50**. Model #2181, 8x 11x11″, **$10.30;** floating lid, **$1.65**

ARKAY DAYLITE TANKS are made of stainless steel. Lightproof lid. Available in 7 models ranging in capacity from 1 quart of solution with 6-4x5 hangers to 14 quarts with 18-8x10 hangers, **$18.45** to **$32.95**

ARKAY COLOR TANK SETUPS include water jacket of stainless steel, insert tanks, and, if desired, tank covers. For efficient processing of Ektachrome, Anscocolor, Printon and Ektacolor sheet film. **Model 45-1-8WJ** consists of 6 insert tanks for 4x5 film, water jacket 7-3/16x35-1/16x6½″, **$94.50.** Water jacket 45-1-8 alone, **$48.95. Model 45-1-8WJD**, daylight setup, same as 45-1-8WJ but with 3 daylight insert tanks for darkroom portion of processing (with covers) and 3 insert tanks without covers, **$124.50. Model 57-2-8WJ**, 6 uncovered insert tanks for 5x7 film, water jacket 10x35-1/16x7-11/16″, **$124.95.** Water jacket 57-2-8 only, **$69.95. Model 57-2-8WJD,** daylight setup, **$1.60. Model 81-4-8WJ**, 6 uncovered insert tanks for 8x10 film, water jacket 12¾x35⅛x 11⅛″, **$159.95.** Water jacket 81-4-8 only, **$89.50. Model 81-4-8WJD,** daylight setup, **$199.50**

ARKAY CUT FILM DEVELOPING TANKS are one piece heliarc welded, S.S. No solder to contaminate solutions. **Model 45-1,** holds 1 quart, 6-4x5 or smaller hangers, 2¼x5½x6″, **$7.45. Model 57-2,** holds 2 quarts, 6-5x7 hangers, 2½x7½x7½″, **$9.75. Model 81-4,** holds 1 gallon. 6-8x10 hangers, 2½x10½x 9⅝″, **$11.95. Model 45-2,** holds 2 quarts, 12-4x5 hangers, 4½x5½x6″, **$8.75. Model 45-4,** holds 1 gallon, 24-4x5 hangers. **$12.95. Model 81-14,** holds 3½ gallon, 18-8x10 or 24-5x7 hangers, also accepts 3½ gal. Rack and processing basket for printon types C&R papers, Arkay Reel Rack for 35mm and 120 film. **$17.25. Model 57-4,** holds 1 gallon, 12-5x7 hangers, 4⅝x 7½x7½″, **$11.65.** Floating lids, **$2.95** to **$5.95.** Tank covers, **$3.25** to **$6.25**

ARKAY CUT FILM WATER JACKETS are made of stainless steel and provide everything needed to develop, fix, rinse and wash black-and-white cut film in daylight or darkroom. Fast efficient temperature control of solutions, Each unit consists of a heliarc welded, lifetime water jacket and 2 insert tanks. Standard size intake and overflow fittings. Ample space between tanks for rinsing. **Model 45-2-2WJ**, holds 2 quarts, 12 4x5 hangers, 7¾x17⅝x7¾″, with 2 insert tanks, **$53;** cover **$10.45;** water jacket only, **$35.50;** floating lid for insert tank, **$3.45. Model 57-2-WJ,** holds 2 quarts, 6 5x7 hangers, 10x10¾x9″, with two insert tanks, **$49.95;** cover, **$10.95;** water jacket only, **$29.95;** floating lid, **$3.25. Model 57-4-2WJ,** holds 1 gallon, 12 5x7 hangers, 10x18¾x9″, **$63;** cover, $12, water jacket only, **$39.95;** floating lid, **$3.95 Model 81-14-2WJ,** holds 3½ gallons, 18 8x10 or 24 smaller hangers, accommodates 3½ gallon-8x10″ Hanger Rack or Saran Processing Basket, 13x30x12½″, **$98.50;** cover, **$16.26;** water jacket, **$64;** floating lid, **$5.95**

ARKAY QUICK DUMP TANK 81-14DT for color processing is made of stainless steel, empties in 7 secs., refills rapidly. Intake nipple connects to any standard garden hose coupling Heliarc welded one-piece wrapper construction. Accepts 8x10 Eastman Saran rack or 18 8x10 or 24 4x5 or 5x7 hangers. 10x13x13½. **$39.95**

ARKAY WATER JACKET 81-14-1WJ is made of stainless steel and for use with Arkay 3½-gallon Standard or Daylite Tanks. Inlet and outlet nipple to fit ¾″ inside dimension hose. Built high to cover tank body almost completely. Can be hooked up in series of two or three, passing same water from jacket to jacket. Self-drain hose. 9¾″ wide by 12¾″ long by 10⅜″ high. **$29.45**

ARKAY REEL RACK accepts 35mm, 120 and 620 Nikor reels for quantity processing. Stacks any single reel size or combination of sizes without adapters. Fits any 3½-gallon tank. Reversal exposure can be made with reels on rack. Made of stainless steel, all parts welded together. Capacity: 30 35mm or 18 120-620 reels. Film holder for control strip. **$23.50**

CESCO-LITE FILM TANKS—high-impact plastic; guaranteed unbreakable! Safe for color or black-&-white, non-corroding, light weight, seamless. Price

Kodak Ektachrome Processing—Summary of Steps

Step	Solution or Procedure	Remarks	Temp. In F	Time In Min.	Total Min. At End Of Step
1	First Developer	Temperature tolerance ± ½F.	75	10	10
2	Rinse	Running water	73–77	1	11
3	Hardener	Room lights can be turned on after 3 min. and reversal exposure started.	73–77	3–10	14–21
4	Reversal Exposure	Expose each side of film for 5 seconds or each end of reel for 15 seconds at 1 foot from a No. 2 photoflood. Return films to hardener solution until all have been re-exposed.			Reset Timer to Zero
5	Wash	Running water	73–77	3	3
6	Color Developer		73–77	15	18
7	Wash	Running water	73–77	5	23
8	Clear	Save bath for use in Step 12	73–77	5	28
9	Rinse	Running water for not less than 30 sec. or more than 90 sec.	73–77	1	29
10	Bleach	See warning on label	73–77	8	37
11	Rinse	Running water	73–77	1	38
12	Fix	Clearing and Fixing Bath	73–77	3	41
13	Wash	Running water	73–77	8	49
14	Stabilizing	Stabilizing Bath	73–77	1	50
15	Dry	Same method as black-and-white films (110F temperature limit)			

includes floating cover. For all ASA standard film holders. 4x5, **$3.90;** 5x7, **$5.10;** 8x10, **$10.75**

ELKAY FILM TANKS are available in a range of sizes. T-450 is 4x5, (capacity 12, 4x5 hangers), requires 2 qts. of developer, **$4.95.** T-111 is 5x7 (capacity, 15, 5x7 hangers or 15, 4x5), takes 6 qts. of developer, **$9.95.** AD 616 is a roll film tank for all sizes to 616, **$4.75.** AR-230 is a roto reel cut film tank for cut film to 2½x3½, **$5.75.** T-570 holds 15, 5x7 hangers or 20, 4x5, takes 6 qts. of developer, **$6.95.** T-180 holds 30, 5x7 hangers or 20 8x10, takes 3½ gal. of developer, **$11.95.** (Floating lid, **$2.**) ADJ-450 is adjustable holding 2¼x2¼ to 4x5, taking 64 oz. of developer, **$9.95**

FR CUT-FILM-PACK DEVELOPING TANK accepts all film sizes up to 4x5. Made of chemical-resistant plastics. Patented loading guide enables easy loading in total darkness; film cannot dislodge or buckle during development; daylight filling and draining. **$9**

GRAFIC DOUBLE ELEVEN color processing system is built around double 11x14 processing tank system; will develop 12 11x14s per rack, or 24 8x10s, 6 16x20s, or a combination of the three. Comprises master water jacket, 6 solution tanks,, 1 bleach tank, 1 wash tank, 7 solution tank covers, 1 floating lid for developer. **$1407.** Optional control panel and extra wash tank. Grafic Series D rack and hanger available as extras.

GRAFIC INSTANT DUMP TANK is made of Grafic Type 316 stainless steel. This easy working dump tank is very helpful in a color lab. Quick opening feature empties complete 3½ gal. tank in 8 seconds or less. Handle is easy to find in the dark room. No sliding valves to require maintenance. Takes little room in the sink, can be used efficiently in 18″ wide sink. No. 65 DT, **$50.82**

GRAFIC LITE TITE TANKS are stainless steel, permit daylight processing of film. #63-LT, for 12 5x7″ hangers, capacity 1 gallon, **$28.43.** #65-LT, for 24 5x7″, 18 8x10″, or one standard 8x10″ Kodak hanger rack, capacity 3½ gallons, **$36.30**

GRAFIC STAINLESS STEEL COLOR PROCESSING SETS are available with either 5 or 7 insert tanks. Ample washing space; standard brass pipe threaded fittings for water inlet and outlet. Type 316 stainless Steel in all these tanks will withstand bleach. All have 6 hanger capacity per tank and include water jacket

COMPLETE SETS FOR EKTACHROME

No.	Cap.	Inserts	Dim.	Size	Price
30.5	1 qt.	5	8x30x 7¼″	4x 5	**$93.17**
32-5	2 qt.	5	10x30x 8½″	5x 7	**114.82**
34-5	1 gal.	5	13x30x10½″	8x10	**147.62**
Complete Sets for Anscochrome and Printon					
30-7	1 qt.	7	8x30x 7¼″	4x 5	**104.36**
32-7	2 qt.	7	10x30x 8½″	5x 7	**132.13**
34-7	1 gal.	7	13x30x10½″	8x10	**167.89**

GRAFIC STAINLESS STEEL DEEP ROLL PROCESSING EQUIPMENT. Available in complete outfits or individual units. Each outfit comprises two removable stainless steel insert tanks, two stainless steel retrievers, one stainless steel water jacket. All water jackets are large enough to handle three insert tanks (models #20 and #22 will handle four). Center section is ideal for washing film. Jacket has standard brasspipe fittings for water hook-up. Retriever is a device for retrieving rolls of film accidentaly dropped to bottom of insert tank, #20, 5½ gal., 10 to 15 roll capacity, **$199.65;** Insert tank, **$38.72;** water jacket, **$121;** floating lid for insert, **$4.36;** hangers, per doz., **$5.45.** #21, 8 gal., 20 to 30 roll capacity, **$211.75;** insert tank, **$38.72;** water jacket, **$121;** floating lid for insert, **$4.36.** #22, 8 gal., 20 to 30 roll capacity, **$229.90;** Insert tank, **$4.36;** water jacket, **$139.15;** floating lid for insert, **$3.94.** #23, 11 gal., 30 to 40 roll capacity, **$242;** Insert tank, **$48.40;** water jacket, **$139.15;** floating lid, **$4.24.** #24, 15 gal., 40 to 50 roll capacity, **$256.52;** insert tank, **$53.24;** water jacket, **$147.62;** floating lid for insert, **$4.84;** hangers, per doz., **$7.26.** #26, 28 gal., 90 to 100 roll capacity, **$623.15;** insert tank, **$87.12;** water jacket **$447.70;** floating lid for insert, **$6.05.** #27, 48 gal., 125 to 150 roll capacity, **$786.50;** insert tank, **$133.10;** water jacket, **$484;** floating lid for insert, **$8.47.** 35mm weights, **$7.87**

GRAFIC TANK AND WATER JACKET. Made of Grafic Type 316 stainless steel. **No.** 65P, 3½ gal. capacity, **$19.36;** Water jacket, **$33.88; Special** 3½″ gal. tank for bleach, **$30.25;** Cover **$6.41**

LEEDAL BLEACH TANKS plastic lined in and out for complete resistance to all color bleaches; over type 316 stainless steel, lightweight and smooth. Available in ten sizes from **$14.90** to **$54.50**

LEEDAL COLOR PROCESSING UNITS are available in various sizes for the efficient processing of color sheet film or prints, of Heli-Arc welded type 316 stainless steel construction with either six or eight insert tanks. Model 410, 1-gal., 8x10, 12¾x35x10¾″, **$190.70** and **$220.50.** Model 440, 1-qt., 4x5, 7x 30⅛x6″ **$108.80** and **$127.** The following units are available with automatic gas burst agitation and automatic temperature control: NC1, 3½ gal., 8x10; NC2, 3½ gal., 16x 20; NC3, 10 gal., 16x20; NC4, NC5E and NC5A, 3½ gal., 8x10 inline processors for Type C Ektachrome and Anscochrome; NC6, 10 gal., 16x20 for Type C. Prices on Request. Also available as an accessory are print baskets for Type C paper and similar ranging from 1 gal. 8x10 to 10 gal. 16x20. Prices on request.

LEEDAL DEEP ROLL FILM UNITS are complete Heli Arc welded type 316 stainless steel setups for processing color or black-and-white roll-film. Complete unit consists of 2 removable deep tanks in a circulation water jacket, and 2 retrievers. Center section is for washing or for third tank. All stainless steel. Model 500, 5½-gal., 9x20x47, **$239.** Model 510, 8-gal., 9x20x47, **$255.** Model 530, 11-gal., 9x26½x47, **$293.** Model 550, 15-gal., 11½x23¾x47, **$315.** Model 570, 24-gal., 11½x46x47, **$624.** Model 580, 48-gal., 22x38x48, **$786. LEEDAL DEEP ROLL ACCESSORIES** include floating lids for insert tanks from **$4.90** to **$13.10;** stainless steel hangers from **$9.90** to **$32.50** per dozen and stainless steel weights for 35mm film at **$11.90** per dozen.

LEEDAL NEGATIVE PROCESSING UNITS are convenient, complete, Heli-Arc welded type 316 stainless steel tank and water jacket setups for developing, rinsing, fixing and washing black-and-white film and plates. Model 100, ½-gal., 4x5, 10x20x7″, **$64.** Model 150, 1-gal., 4x5, 12x29x7″, **$79.50.** Model 200 1-gal., 5x7, 10x20x8½″, **$73.50;** Model 210, 3½ gal., 8x10,. 13¼x29x 12¼″, **$113.80.** Available as accessories are floating lids to prevent oxidation and evaporation, **$4** to **$6.75;** water jacket light covers to permit light to be turned on while film is in tanks, **$11.50** to **$18.75**

LEEDAL PROCESSING TANKS are made of Heli-Arc welded Type 316 stainless steel construction, designed for film and plates, color or black-and-white. Professional models have a heavy stainless steel rod as part of lip so tanks keep their shape on top and sides despite constant use. Model 307, ½-gal. for 4x5 and smaller, holds 12 hangers, **$12.40.** Model 308, 1-gal. for 4x5 and smaller, holds 24 hangers, **$16.70.** Model 302, 1-gal. for 5x7 and smaller, holds 12 hangers, **$15.75.** Model 301, 1-gal. for 8x10, holds 6 hangers, **$14.90.** Model 304, 3½-gal. for 8x10 and smaller, holds 18 8x10 or 24 5x7 hangers, **$20.90.** Model 309, 3½-gal. for 11x14, holds 8 hangers, **$34.50.** Economy tanks have double-formed lip. Model 321, 1-qt. for 4x5 and smaller, holds 6 hangers, **$9.10**

LEEDAL PROCESSING BASKET. Print basket for Type C and similar paper. Constructed of type 316 stainless steel. Basket has plastic screening which separates prints and permits rapid flow of solution. Each compartment takes two sheets, back to back. No. 301-F, for 1 gal tank, eight 8x10 **$64;** No. 304-F, for 3½ gal tank, thirty 8x10, **$78.** Also available for 3½ and 10 gal 16 x 20 tanks.

LEEDAL COVERS fit Leedal Processing Tanks, keep dirt and other contaminating matter out of chemicals, essential for color work. Made of stainless steel, From **$3.70** to **$7.95**

LEEDAL FLOATING LIDS fit Leedal Processing Tanks, prevent oxidation and evaporation of solutions, come in various sizes. Made of stainless steel. From **$4** to **$6.70**

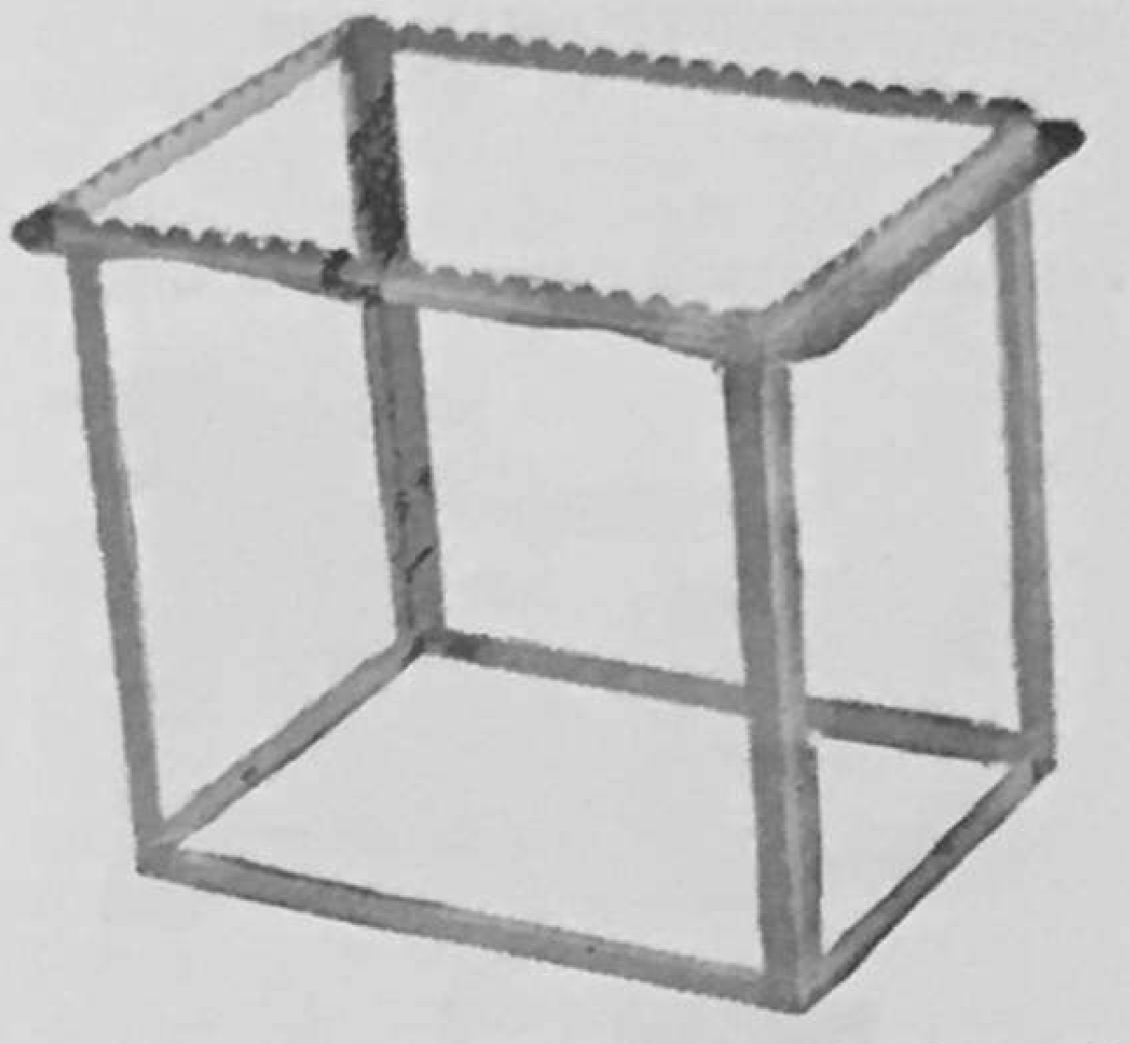
LEEDAL PROCESSING HANGER RACK fits standard 3½-gal. 8x10 tanks such as LEEDAL #304. Top is notched so hangers rest at equally spaced points. Capacity fourteen 8x10 or nineteen 5x7 hangers. **$7**

MORSE AUTOMATIC DEVELOPING OUTFIT M-10 develops, fixes and washes . . . all automatically . . . either film or photographic paper in widths from 70mm to 9½″, in lengths up to 250 feet. Outfit consists of 3 tanks: developer, fixer, washer; motor-drive that reverses itself automatically, winding film back-&-forth from one reel to the other during entire processing. The wash tank contains channel for ¾″ O.D. rubber drainage hose. 115-volt AC-DC. Unit may be operated manually with crank, if desired. **$495**

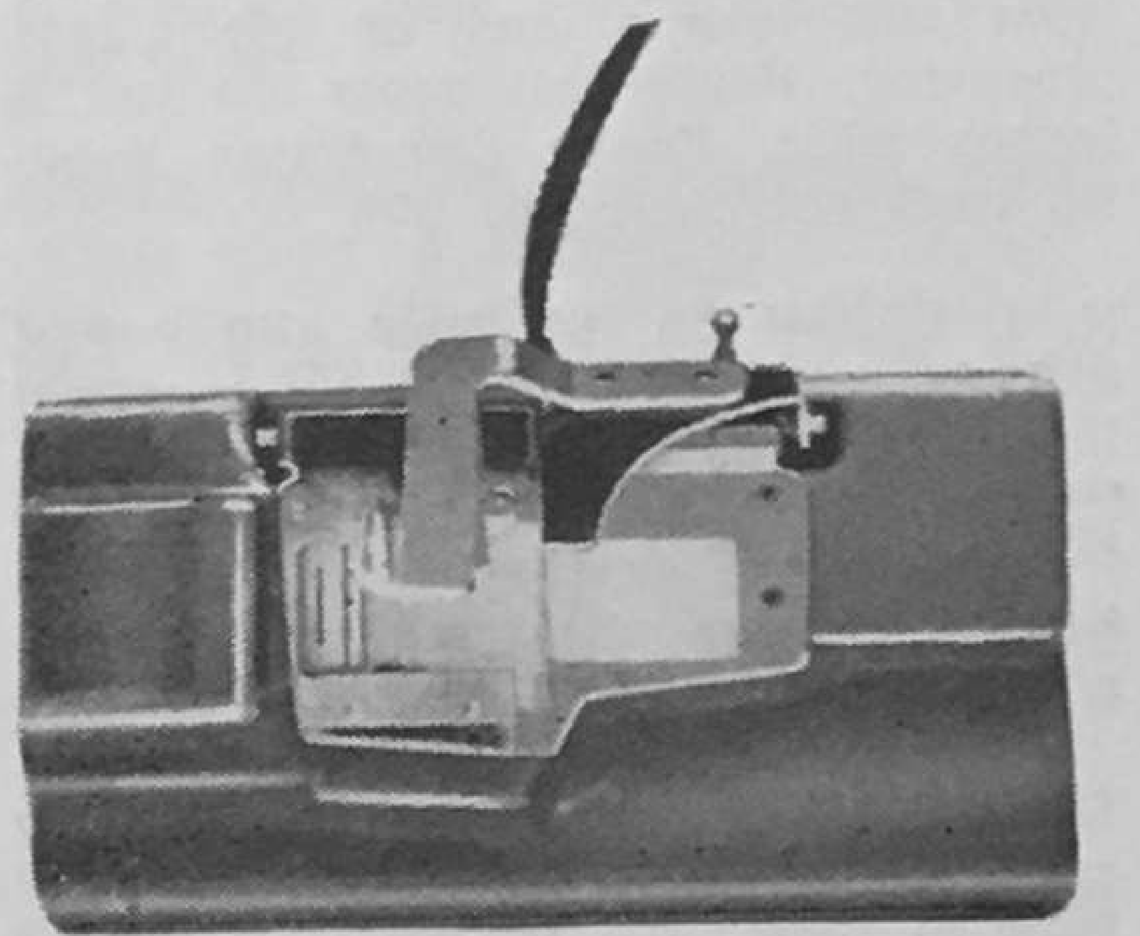
PAKO PRINTMACHINE automatically transfers prints through short-stop, two hypo baths, two water washes, glazing bath (or extra wash), deposits them on draining rack. This is achieved through a very simple design, utilizing a large stainless steel tank which houses six solution-and-wash trays, and six print "baskets." (Baskets are reinforced soft rubber woven mesh, flexible, nonbreakable, impervious to photographic solutions.) Clever timing mechanism and motor-propelled chain causes baskets to automatically transfer their contents from one to another at predetermined intervals. (The first basket is suspended in short-stop; the second and third, hypo; fourth and fifth, running water; sixth, a glazing or washing solution.) Once PRINTMACHINE has been set in motion, prints from PAKODOPER or other developing units are tossed into short-stop basket. (A light trap which travels in unison with the basket keeps prints in "safe" light until they have been transferred to the first hypo bath.) After approximately 6 minutes in acid short-stop, prints are transferred to first hypo bath. Six minutes later they are automatically transferred to second hypo bath, and so on through each successive step. Prints are assured uniform processing because of the precise timing of print-transfers from one solution to another. Sustained agitation is maintained by continuous, gentle rocking motion. Length 99″, width 36″, height 34″ (legs removed, passes through 28″ door). 1/6 h.p. motor. **$1,495**

commercial processing & finishing aids

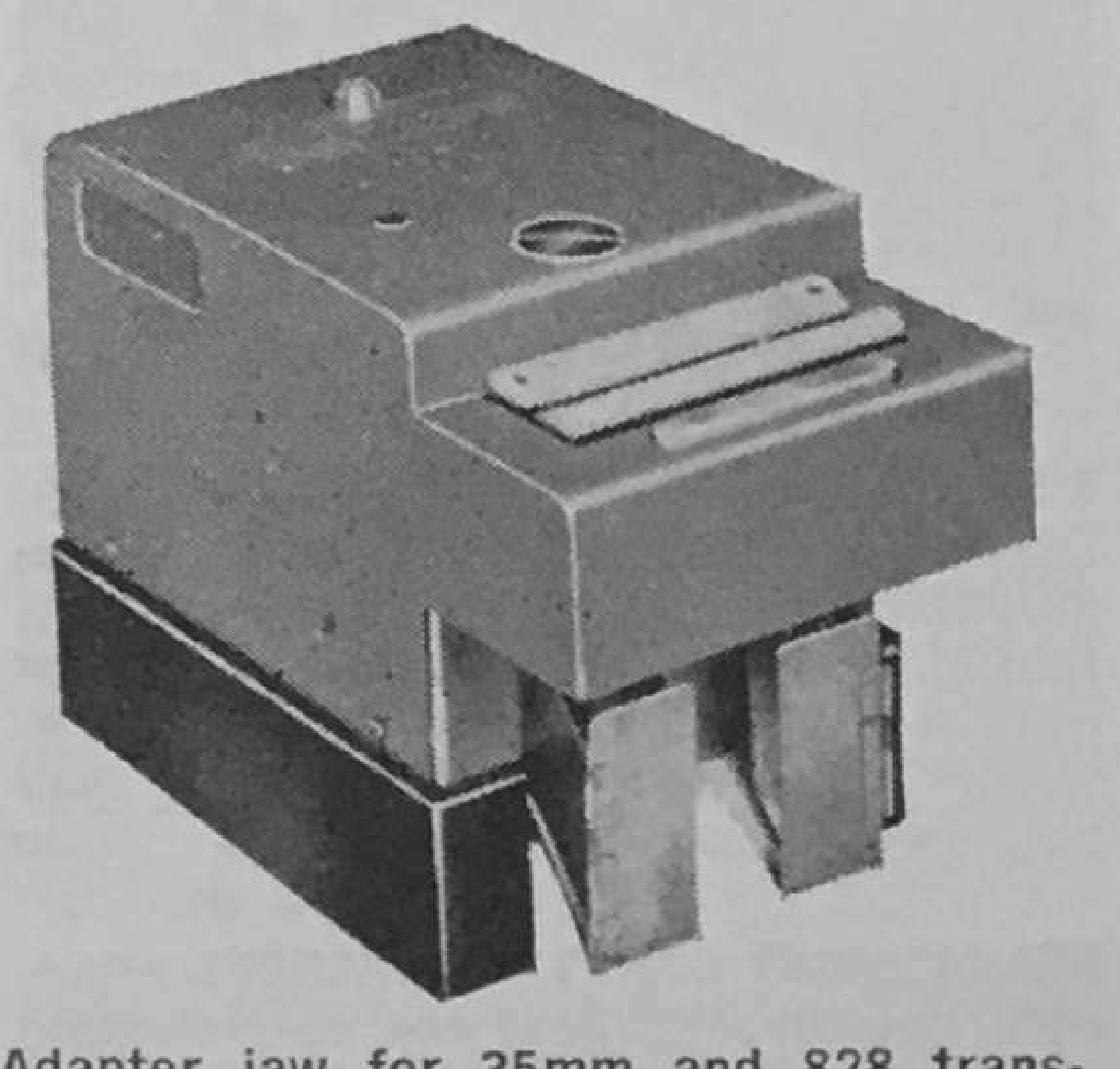
KODAK DEVELOPING HANGER RACK, No. 40, is improved developing hanger rack designed to be used in connection with the Kodak Gas Distributor. Design of this rack assures even distribution of gas and more uniform agitation. **$7.50**



KODAK 35mm FILM CUTTER, MODEL A, for use in cutting 35mm and 828 transparencies prior to mounting in 2x2″ cardboard mounts. Features illuminated viewing area to facilitate positioning of transparency. As film is cut, it drops into mount positioned directly underneath. Has handy lamp switch; power cord connects to any 110-volt, 60-cycle outlet. Two illuminated frame line markers (for 828 and 135 film) provide reference points to help meter the cutting operation. Has stationary cutting edge plus both top and left guides for more exact results. Complete with power cord and lamp, **$115**



KODAK SLIDE MOUNTING PRESS. MODEL 2. A compact and versatile press for large-volume mounting of color transparencies. Accessory removable jaws, supplied separately for use with various size transparencies. A numbering attachment to emboss numbers onto the mounts is also available, **$695.**



Adapter jaw for 35mm and 828 transparencies, **$95;** for Super Slides (1⅝x 1⅝″), **$95;** for stereo mounts, **$95;** for 2¼x2¼″ transparencies, **$125;** for 2¼x3¼″ transparencies, **$125.** Kodak Automatic numbering attachment, **$395**

KODAK PROCESSING BASKET, for color print materials in sheets. Made from a Saran screen mesh, formed around a stainless steel frame in such a way that

continued on next page

15 compartments are provided, each measuring ½x10x8½". Basket is designed for processing 8x10" paper. Two sheets are placed back-to-back, providing a production rate of 30 sheets per cycle. Furnished with stainless steel cover, **$87**

KODAK POWER TRIMMER, MODEL 1 is designed to cut or trim single- or double-weight photographic paper up to 10 inches wide. Has cast aluminum base and motor housing. Cutting blades are of the rotary type, power driven by a motor and actuated by means of a footswitch. Supplied with the footswitch and either straight or deckle-edge blades, **$375**

KODAK ROLL PAPER HOLDER (for Kodak Power Trimmer, Model 1)—Used as a support to hold the rewound roll of paper complete with its core and flanges after it has been removed from the takeup end of the paper processor. Holds roll paper up to 10 inches wide. Kodak Cam-Action Wind-Up Reel not included. **$60**

H. J. BARON CO. 5" FILM AND PAPER CUTTER. Manual or foot operated. Straight or deckle cut. Light beneath for paper or film viewing. Reel attached for roll paper or film. Cast aluminum base. Complete cutter with foot switch and paper spindle, **$245**

CONDIT FILM DIE CUTTER for cutting super slides from 120, 620, and 127 rolls of film. Light inside; slide viewed before cutting. 35mm square super slide, **$145**

LEEDAL SPINDLE BASKET permits simultaneous processing of many reels of film. Holds all Nikor sizes, 36 35mm or 18 120. Self-draining perforated base permits complete circulation of chemicals. Fits any standard 3½-gal. 8x10 tank. Rods can be partially loaded requiring only 1-gal. of solution. Stainless steel. **$36.50**

PAKO FILM CUTTER cuts production costs and speeds up film handling. Compact, self-contained unit 45"x 20¼"Wx42½"H, table height, 30". Foot operated to leave operator's hands free. Has viewing light, squared shearing blade and full length guide. Polished cutting trough, scrap drawer and storage space for film, orders, etc., **$165**

ROLOR PRINT CARRYING RACKS for 3-20x24" prints, **MODEL 10R, $210; MODEL 17R,** for 4-20x24" prints, **$295; MODEL 24R,** for 3 prints up to 24" wide and 36" long, **$210; MODEL 4R,** for 4 prints up to 24" wide and 36" long, **$585**

ROLOR PRINT CARRYING BASKETS eliminate operator fatigue, are very flexible as the easily removable rod dividers are hand inserted and require no tools. ROLOR baskets will not mar print surface as the capillary action of the solution on the plastic screening forms a smooth liquid protection. All baskets are gas-distributor fitted and feature positive agitation control. **STANDARD BASKETS: $165 to $350; CONVERTIBLE BASKETS: $215 to $665; TRI CONVERTIBLE BASKETS: $355 to $750; DUPLEX BASKETS: $260 to $885**

ROLOR FILM CARRYING EQUIPMENT includes hanger racks, reel cagers and combination carrier. **CUT FILM RACKS;** for 14-8x10 or multiple 4x5, 5x7 hangers, **$55;** for 7-8x10 or multiple 4x5, 5x7 hangers, **$45; REEL CAGES** for Nikor or similar reels, 18-120 or 30-35mm reels, **$80;** for 9-120 or 15-35mm reels, **$45; COMBINATION CUT FILM & ROLL FILM CARRIER,** holds 7-8x10 or multiple 4x5, 5x7 hangers and 9-120 or 15-35mm reels, **$85**

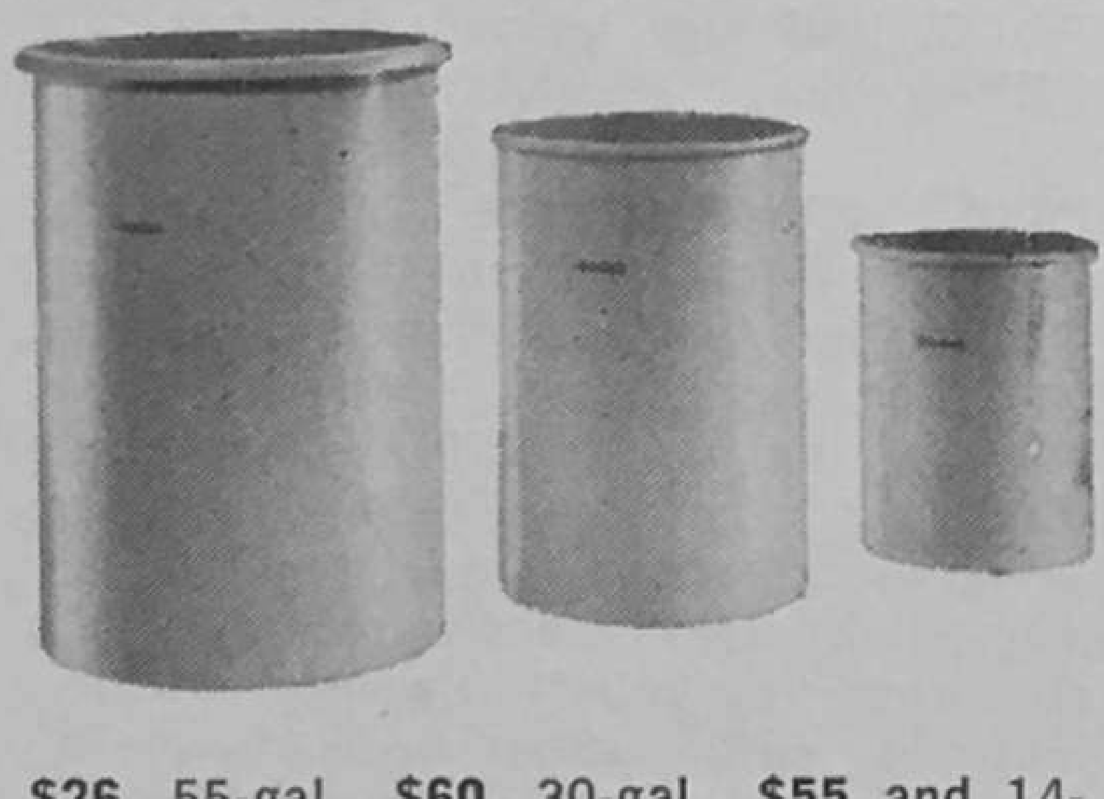
ROLOR ROLL PAPER REEL HOLDERS hold Eastman Kodak reels. **STANDARD MODEL** holds 5-2¾" or 4-3½ or 3-5" or 2-8" reels, **$100; DAYLIGHT REEL HOLDER CASSETTE** has same capacity as STANDARD model, **$265, MULTIPLE HOLDER,** holds 15-2¾", 12-3½, 9-5" or 6-8" reels, **$250**

UNITRONICS AUTOMATIC FILM DISPENSER will store two rolls of any width from 6 to 30" in light tight, readily accessible dispenser. Feeds any length of film, from 1 to 36" at a single feed, in increments of one inch. Multiple feeds for greater lengths before cutting. Cuts Mylar, Cronar and other PB films as well as acetate base films. Self-sharpening knife cuts cleanly and evenly with one pull of a lever. Accepts rolls up to 6" in dia. 115 VAC, **$695**

VANBILT ROLL PAPER CUTTER automatically cuts S.W. or D.W. roll paper from 2 to 11" wide. Makes a slit-triggered, straight cut, with no limitation to length of print or multiple print strip. Can operate directly from the dryer or from a roll on a spindle, **$1,095**

mixing & storage tanks, drums, pumps

KODAK CHEMICAL STORAGE TANKS are made of Tenite Polyethylene, unaffected by any photographic solution. Attractive, durable and economical. 4 sizes, 7-gal., **$26,** 55-gal., **$60,** 30-gal., **$55** and 14-gal., **$40.** Specially made ½" (NPT) or ¾" (NPT) compression type fitting which can be installed on side or bottom of tank available. Covers included. Floating lids and screens available on order.



BAR-PLATE CHEMICAL STORAGE AND MIXING TANKS are made in 3 sizes; of 316 heavy gauge stainless steel; equipped with cover, floating lid and ½" I.P.S. stainless steel faucet. 5, 10 and 25 gal. capacity, **$30 to $169**

BEL-ART MIXING TANKS are made of Polyethylene with or without faucets, with or without floating lids. 5 gallons and up from, **$8**

DELAWARE BARREL & DRUM CO. POLYETHYLENE DRUMS are cylindrical, available in 5, 15, 30, and 55 gallon sizes. (Liquid capacity 5.3, 14, 29, and 53.3 gallons respectively.) Available in many styles of plug and cap closure, of which the most popular are those with two side openings, an offcenter opening, or the center opening. Encased in steel overpacks they are classified as steel drums for commercial shipments and receive the steel drum rates, which are much lower than carrates, which are much lower than car-boy or alloy metal drum rates. The 5 gal. size can be supplied with steel pail, corrugated carton, or fibre drum overpack. Other sizes with steel drum overpack only. Prices run from **$4.50** to **$21** for the poly drums alone, overpacks from **$1.25** to **$9.55.** There is an appreciable price reduction for quantity purchases. Quicklox closures can be supplied on steel drums in place of the standard bolt ring, at an additional charge of **35¢** per drum.

DELAWARE BARREL & DRUM POLYETHYLENE SPIGOTS AND FITTINGS include stop cocks, inline valves, poly pumps, hose connections, tank fittings, and various types of spigots, with or without furled spout for hose connections. All are designed for long term use or expandable service. PET COCKS TYPE A ¾" NPT, **$2.25,** TYPE C ¾" or ½" NPT, **$4.50.** TYPE B NEEDLE NOSE ¾" NPT (minimum order four), each, **60¢**

DELAWARE BARREL & DRUM POLYETHYLENE TANKS are chemical resistant, non-toxic, unbreakable, light in weight yet rugged, and inexpensive. They can be made in various shapes and capacities, with fittings installed in any location desired. They are also available with agitator stands. Cylindrical standard-weight polyethylene tanks are supplied in 5, 14, 29, and 53 gallon sizes, **$7.50 to $24.** Heavy weight tanks, twice the thickness and rigidity of standard tanks, come in 5, 12, 25, and 50 gallon sizes, from **$12.75** to **$36.** Standard rectangular, straight-sided tanks are supplied in 5, 6½, 8 and 13 gallon sizes, priced from **$27.50** to **$72.** Also available are tanks both cylindrical and rectangular, tapered, with external or internal flanges, and cylindrical with external curled cuff flange and straight sides. Covers are available for all tanks at slight extra cost, and there is a substantial reduction when tanks are ordered in lots of 10 or more.

GRAFIC SQUARE STORAGE TANKS are ideal where space is limited. Stainless steel construction, complete with cover and floating lid. 5 gal. 10x10x14", **$48.40.** 10 gal. 12x12x17:, **$64.13**

GRAFIC STAINLESS STEEL ROUND STORAGE TANKS—18 gauge heli-arc welded round storage tanks, type 316 stainless steel.

Capacity		Cover	Lid
5 gal.	$ 82.28	$15.13	$13.92
10 gal.	96.80	16.34	15.13
15 gal.	111.32	17.42	15.73
20 gal.	133.10	18.15	16.94
25 gal.	151.25	19.36	18.15
30 gal.	169.40	19.36	18.15
50 gal.	266.20	28.80	25.89
75 gal.	399.30	32.67	30.25

Angle Stand **$90.75**

GS SIPHON PUMP for acids or chemicals has ball check valves of polyethylene, chemical resistant. Bulb starting; no need to apply to mouth. 7-ft pipe, **$4.90**

GS POURING SPOUT & BOTTLE TILTER provides a safe, easy method of pouring liquids into smaller containers. Bottle is held in position when tilted in chain-hung steel cradle. Safety air-vent pouring spout fits any size bottle, assures even flow without spurts or splashes. Made of acid-resistant rubber and plastic tubing. Complete **$12.90.** Spout only **$5.75.** Cradle only **$6.25**

LEEDAL STORAGE AND MIXING EQUIPMENT is made of Heli-Arc welded type 316 stainless steel. **LEEDAL SQUARE TANKS** save space, have dustproof cover and floating lid, available with rubber hose drain or stainless steel sanitary faucet. Model 705, 5-gal., 10x10x14", **$55.50.** Model 710, 10-gal., 12x12x17½", **$75.50. LEEDAL ROUND TANKS** have floating lid and graduated dip stick, available with rubber hose drain or stainless steel sanitary faucet, 6 models, 10-50 gal. capacity, **$101.50** to **$318. LEEDAL PORTABLE ELECTRIC MIXER,** stainless steel shaft and propeller, complete with 1,600 R.P.M., 115-volt, 60-cycle, single phase motor, cord, clamp, **$76. LEEDAL ROUND TANK ACCESSORIES** include mild steel or stainless steel stands from **$34.50** to **$110** and stainless steel dust covers from **$16.80** to **$32.50**

PAKO CIRCULATION-FILTRATION UNITS maintain constant circulation of working solutions to assure chemical agitation for uniform processing. Includes pump, filter, motor and base mounting, **$124;** for Bleach, **$130**

PAKO HYDROMIXER mixes, stores, pumps chemicals to desired location. Mixes almost any crystalline or powdered chemicals (5 to 50 gallons) into aqueous solution. Calibrated gauge eliminates extra measuring. Standard-equipped with truck for portability. 24"W, 24"D, 47"H. 115V 60-cycles, AC; 250 watts, 4.2 amperes. Pump capacity: 20 gpm at 0 pressure, elevates solution 20 ft. With 25 gal. PAKO-TANK, **$295;** 55 gal., **$395;** 50 gal. S.S. tank, **$495**

ROLOR SOLUTION FILTER AND PUMP UNIT-MODEL FP-1 is an efficient chemical solution filter and pump unit mounted on a stainless steel housing that removes accumulated sludge and other residuals, particularly from developer or bleach solutions. All solution contact points are non-corrosive. Swing-out feature simplifies replacement of filter cartridges. Bracket supplied attaches to the water jackets of Rolor processors. Brackets available for other similar equipment. Tank installation requires installing the provided nylon ½" tank bulkhead fittings for input and output. **$225**

SETHCO FILTER PUMPS for photographic solutions are corrosion proof and filter in depth. Models available to filter from 50 to 2200 gal/hr. **"CANNED" type, SERIES LEI,** 3 sizes, ⅛ H.P., **Model 5S,** 50-75 gal/hr., **$250; 10S,** 100-150 gal/hr., **$260; 20S,** 200-300 gal/hr., **$300. "SUMP"** type, **SERIES UAL,** 5 sizes, ½ H.P., 50-75 gal/hr. to 400-600 gal/hr., **$295** to **$450; SERIES UAA, 3** sizes, ½ H.P., 300-450 gal/hr. to 600-900 gal/hr., **$595** to **$705;** w/¾ H.P. 3 sizes, 800-1200 gal/hr. to 1800-2200 gal/hr., **$825** to **$987. Stainless Steel type, SERIES LSI,** ⅛ H.P., 3 sizes 50-75 gal/hr. to 200-300 gal/hr., **$235** to **$310**

THOMPSON PNEUMATIC ACID PUMPS are designed for the safe and easy handling of acids and other liquids contained in carboys and barrels. They slip into the neck of the container to provide a smooth stream of acid that is free from spurts. Available in models for manual, foot, or motor driven operation with choice of delivery tubes in lead, hard rubber, flexible plastic, or aluminum. **$18.05** to **$173.50**

THOMPSON ROTARY MIXER is used for mixing 5 Gal. cans of powderless etching additives. 2 infrared lamps, mounted on mixer frame, bring contents to proper temperature. Powered by a 115 volt, AC-DC gear head motor, **$99.50**

THOMPSON SAFETY ALL PURPOSE HAND TRUCK is designed to transport carboys and other acid containers to be loaded into a tilter. Can also be used as a general purpose truck. With aluminum, rubber tire, or roller bearing rubber tire wheels in models with large or small baseplate. **$38.50** to **$47.50**

THOMPSON SAFETY CARBOY TILTER permits faster, safer, easier pouring of acids from any size carboy or other metal container. Positive clamping mechanism securely grips containers. Safety ratchet locking. Extra long tilting handle. Complete with safety air vent pouring spout. **$45.50**

U. S. CHEMICAL STONEWARE HYPO VATS do not corrode or otherwise deteriorate. The smooth finish does not chip, craze, peel or become slimy. Does not fog or discolor solutions. Acid and alkali proof. Rounded corners make positive cleanliness possible.

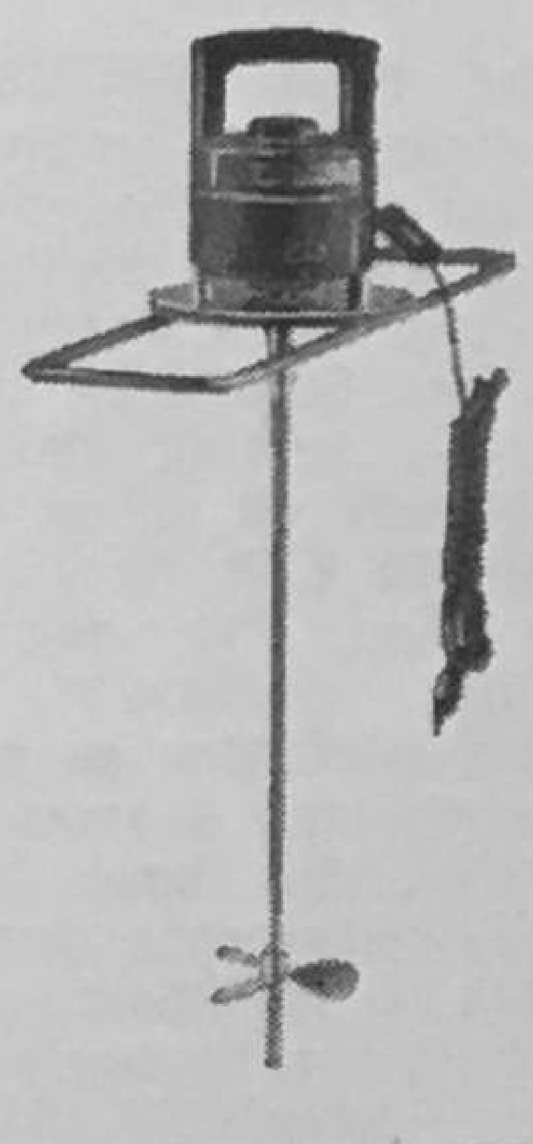
Inside Measurements (inches)

Size	Length	Width	Depth	Weight (lbs.)	Price
A	14	18	6	37	**$ 47**
B	20	24	6	65	**68**
C	24	36	6	120	**118**
D	24	30	8	135	**100**
E	20	32	12	170	**121**
F	24	36	12	225	**150**

U. S. STONEWARE DEVELOPER JARS are convenient for storing developer. The finish is corrosion proof and resists alkalis acids. Will not chip, peel, craze, fog or discolor solutions. An even temperature can be maintained indefinitely. Impurities settle below faucet line; filtering unnecessary. Drain is ½″ diameter with Flexilock rubber joint. Faucet is mechanically rugged. With cover. 5 gal., **$29**; 10 gal., **$40**

mixers

HOLLOWAY CHEMICAL MIXERS are lightweight, portable units for thorough mixing of photo chemicals without aeration. Convenient rubber-covered mount fits mixing vessels of many sizes and types with vibrationless action. The mounting plate on all models protects mixer motor from liquid splash. Aside from motor housing, all exposed metal parts are made of photographic type stainless steel. **MASTER MIXER,** capacity 1 to 50 gallons of low-viscosity liquid, is operated by a 1/30 HP fan-cooled AC motor, 1500 RPM. Conduit box, enclosed switch. 24″ mounting frame, 3″ 3-blade stainless steel propeller adjustable on shaft. Standard shaft 28″, but shaft to fit individual tank requirements may be substituted at no extra cost. **$62.50. SPECIAL MIXER,** 1 to 20 gallon capacity, operated by 1/60 HP fan cooled AC motor 1500 RPM. 15″ or 18″ frame, 15″ stainless steel shaft (may be 18″ where required.) 22″ frame available at small additional charge. For 3½ gallon mixing 9″ shaft with 2″ 3-blade propeller is furnished. Regular 2½″ 3-blade propeller is adjustable on shaft. **$47.50. STANDARD MIXER,** capacity 1 to 5 gallons, uses 1/100 HP fan-cooled AC motor, 1500 RPM. 15″ frame, 15″ shaft, fixed 2″ 3-blade propeller; 9″ shaft, fixed 2″ 3-blade propeller. Extra shafts and propellers available **$37.50. STANDARD "A" MIXER,** 1 to 2 gallon capacity, for use on wide-mouth bottle, up to 4¾ diameter. 9″ shaft, 2″ 2-blade propeller, **$31.50**



LIGHTNIN PORTABLE MIXER is quick-acting, rugged, and simple to operate, featuring lifting eyes and position handle to facilitate operation both off and on the tank. New selection of speeds provide up to 45% more flow in gear drive series. Direct drive speed 1750RPM with optional 1150RPM for integral horsepower models. Gear drive speed 350RPM with 1750RPM input. Single reduction set of internal helical gears mounted on shaft by means of "grip spring". Quick, easy, positive drive chuck. Housing ball numerically and alphabetically indexed, making vertical plane adjustments of 90% and horizontal of 360% possible. Housing ball and clamp socket padded against vibration. Single hex wrench makes all adjustments. New steel propellers give best combination of flow and head characteristics. 5 yr. maintenance-free factory sealed lubrication.

ROLOR CHEMICAL POWER MIXERS have direct drive powered by a smooth running, ball-bearing, air-cooled motor. A true running chuck holds sturdy 5/16″ stainless steel rods with three bladed propellers. Comes complete with stainless steel bracket to position unit on mixing tank. **MODEL PM-8** has 8″ stirrer for use with standard 3½ or 2 gallon tanks, **$54.50; MODEL PM-20** has 20″ stirrer for deep tank mixing, **$59.50**

ROLOR TURBO-MIXERS permit chemical mixing directly in solution tanks. No exposed moving parts, no creation of a vortex, no elusive "clumps" at bottom of mixing vessel, are but some major advances of this revolutionary mixer. Available with long turbo column for deep tanks, **Model TM-20;** short column **Model TM-10** for standard 3½ gallon tanks and a special model, **Model RS-M** for mixing in Rolor Pressure Storage Modules. Ea., **$99.50**

gas burst agitation

GRAFIC NITROGEN BURST EQUIPMENT provides a uniform, dependable, work-saving method for black-and-white or color processing. GRAFIC GAS CYCLING TIMER MODEL MV-A provides continuously variable adjustment of both ON and OFF intervals. Timing range: ON—0 to 6 sec.; OFF—0 to 60 sec. Gas control solenoid valve can be removed for remote mounting. Two outlets are provided for operation of additional control solenoid. For 105-125 volt, 60 cycle AC only, **$110.** Additional solenoids, **$16.** GRAFIC GAS REGULATOR VALVE MODEL GN-10 consists of two gauges; one dial showing the volume of gas remaining in the tank, the other the pressure on the line, from 0 to 100 lbs. For Linde Gas Cylinders only; adapter available for use with other cylinders. **$45.** GRAFIC GAS DISTRIBUTING PLENUMS are formed from a single piece of inert, durable plastic tubing. PLENUM MODEL SP-30: standard 3½ gallon unit for stationary uses with film hangers and racks, or for stationary or portable use with Eastman Type C Processing Baskets, **$18.** PORTABLE PLENUM MODEL MP-31: 3½ gallon unit, fits inside the Eastman Kodak 4A film hanger rack; including clip for holding plenum in place and handles for rack, **$20.** PORTABLE PLENUM AND RACK MODEL PB-32; as above; assembly includes test strip holder, **$29.50**

KREONITE NITROGEN BURST GRIDS AND TANKS are made for color processing. Nitrogen burst grid for 3½ gal. 8x10 tank, w/nylon elbow and "O" ring, **$15;** 3½ gal. 8x10 hard rubber tank, w/turbo wash, **$32.50.** Tank w/floating lid and nitrogen burst grid installed, **$39.50;** same, plus light-tight cover, **$47.50**

KODAK GAS DISTRIBUTOR (for Kodak Hard Rubber Tank, 8x10). For distributing air or gas evenly throughout the interior of a 3½ gal. tank for purposes of agitation during the processing of film or paper, either black and white or color. Consists of a grid-type structure which approximately covers the entire area of the tank bottom. Two stainless steel tubes fastened to the grid convey the gas to the distributor. The gas under pressure is forced through a large number of small diameter holes and is thus discharged in an even distribution throughout the area of the tank, **$57.50**

KODAK INTERMITTENT GASEOUS BURST VALVE, MODEL 90A. Used in processing Kodak Color Print Material, Ektacolor and Ektachrome, by the use of the Kodak Gas Distributor in 3½ gallon tanks. Kodak Intermittent Gaseous Burst Valve is also used with Kodak Rack and Tank Color Film Processors 10C and 10E. Main features are that interval between bursts is adjustable and duration of bursts is adjustable. The use of an inert gas (nitrogen) prevents oxidation of developer. However, compressed air may be substituted for nitrogen in processing solutions following the color developer. Includes a separate solenoid operated valve equipped with two hose connectors and a length of flexible welding hose. **$120**

LEEDAL NITROGEN BURST EQUIPMENT can be purchased separately or built into the standard processing equipment. Provides uniform high quality results with color and black and white, while saving time and effort. All timers, valves, distributors, fittings, etc. needed for a complete installation are available. Can also supply special items. Prices on request.

ROLOR GAS AGITATION SYSTEM COMPONENTS are of the highest quality. **PRESSURE REDUCTION REGULATOR MODEL NR-100** features two stage reductions, with ⅜″ OD fitting on output, **$46.50. GAS BURST CYCLING TIMERS** for color paper and/or color film have differential pressure control, continuous agitation selection and are powered by a synchronous motor. **MODEL GBT-2,** for color film, **$110; MODELS: GBT-2A,** for b&w and color film; **GBT-3,** for color paper and **GBT-5** for color film and paper, ea., **$125. MODEL NC, GAS PRESSURE and TIMING CONTROL UNIT** permits use of both nitrogen and compressed air, **$280. INJECTION TYPE GAS MANIFOLDS** have 5″ stainless steel raceway for wall or sink backsplash mounting. **MODEL GM,** with 3 valves, **$95; MODEL AM,** with 5 valves and compressed air positions, **$140. TOGGLE TYPE GAS MANIFOLDS,** have 3,5,7 or 8 valve positions and are available in either gas or gas and compressed air type, **MODELS: GM-T3, $110; GM-T5, $160; GM-T7, $200; GM-T8, $225; AM-T3, $115; AM-T5, $165; AM-T7, $210; AM-T8, $250. TANK GAS DISTRIBUTORS** fit standard 3½ gal. tanks. **MODEL GD-1, $20; MODEL GD-2,** manifold type, **$30. STATION PRESSURE REGULATION UNIT, MODEL SR,** provides precise and stable reductions to low pressures. **$75. AIR COMPRESSOR MODEL 35-103** with 10 gal. storage tank is absolutely oilless. Supplies air @ 35 PSI, **$175. AUXILIARY AIR CONTROL MODEL AUX-1 $110**

water regulators

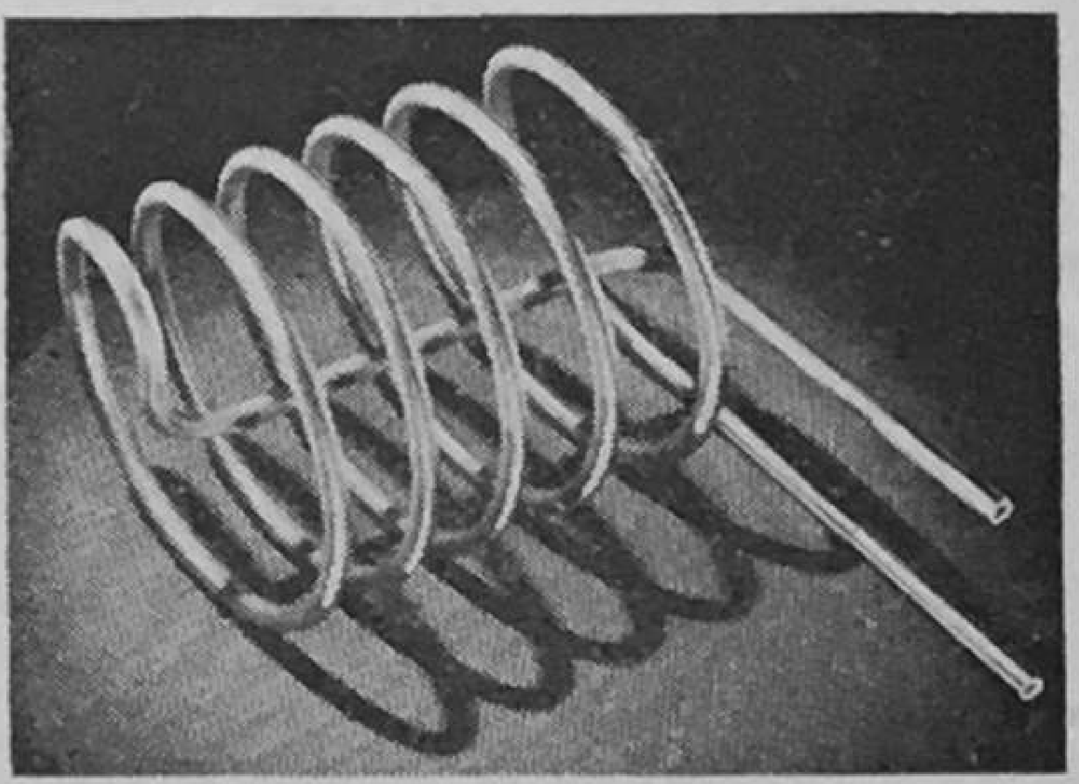
ARKAY TEMPERATURE REGULATOR is a thermostatically controlled mixing device that protects against varying water supply temperatures and varying water supply pressure in film developing process. This device assures a constant water delivery within ½ degree Fahr. of the precise preselected temperature. The range of temperature of the device is between 60 and 125 degrees Fahr. **$160**

CHILL CHASER automatic heaters are electric immersion heaters with built-in adjustable thermostats, for the exact control of developing liquid temperature in tanks and in trays. They are designed to raise the temperature of the liquid and automatically maintain that temperature at any desired point, plus or minus 1° F. They are light in weight (about 2 lbs); may be plugged into any 115V A.C. outlet; no special wiring required. Rigid construction; may be used as stirring rods. All submersible parts are made of special photographic stainless steel, type 315, acid resistant. 7 sizes of tank heaters, 5″ to 40″ immersion lengths, **$22.50** to **$45.** 4 sizes of tray heaters, **$31.50** to **$50**

DOUTHITT AUTOMATIC WATER REGULATOR can be easily installed on any darkroom sink and will maintain running water temperature within ½°F. at all times. Once set it requires no further attention. Large dial indicating thermometer shows exact temperature at a glance. With copper tubing extension, **$160**

FISHER TEMPERATURE CONTROL UNITS assure constant control to within ¼°. All have radium glow temperature gauge, temperature regulator, vacuum breaker, automatic pressure regulators, pressure gauge, takeoff valve and base adapter, agitator type tail pipe and volume control valve. **MODEL TC 2211** requires only 13x11½x3″ including stainless steel case, uses standard ½″ plumbing connections and can be mounted on any sink or processing unit. Capacity, 6 gal./min., **$203.** Models with 22, 34, 67 and 125 gal./min. capacity avail., **$357** to **$690**

KODAK TEMPERING COIL for Kodak 8x10 Hard Rubber Tank. For rapid temperature adjustment of film and paper processing solutions in 3½ gallon tanks.



This device, which consists of a spiral coil of stainless steel tubing, is submerged in the solution. Water of the required temperature, conveyed by a rubber or plastic hose, enters at one end of the tubing, passes through the coil, and is discharged from the other end of the tubing. Heat or cold is thus introduced to the processing solution until the correct temperature is reached. **$35.50**

KODAK PRECISE-TEMP CONTROL, MODEL 40—For closely controlling temperatures of any solution in jacketed or unjacketed tank. Has hermetically sealed cooling unit, immersion heater, close-differential thermometer, pump and heat exchanger. **$995**

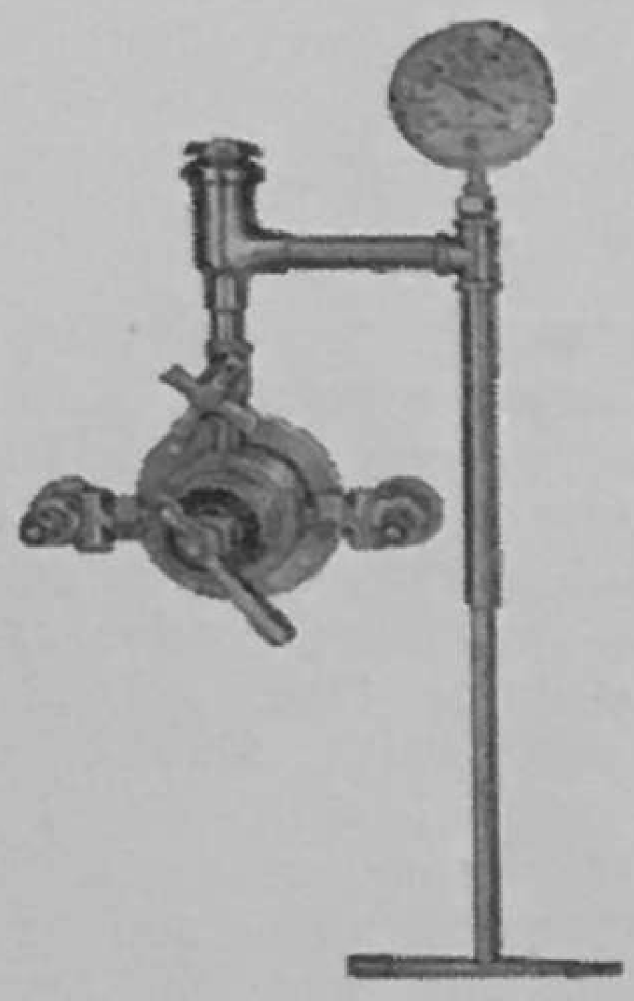
KODAK SUMP ATTACHMENT, MODEL 40A (For Kodak Precise-Temp Control)—Needed to purge air from tank jackets when Kodak Precise-Temp Control is

continued on next page

used to control temperatures. Not required when solution recirculated through the control device. $44

KODAK PRECISE-TEMP CONTROL, MODEL 40W has been designed for special processing conditions. It does not discontinue or replace the Model 40 Precise-Temp Control, but is made available as a supplemental unit. Model 40W has a refrigeration unit with a higher capacity (½ ton as compared to ¼ ton, on the Model 40), and is equipped with a water-cooled refrigerant condenser instead of an air-cooled condenser. Greater cooling capacity of the Model 40W makes it ideal for processing situations in which the use of the Model 40 unit would be borderline or inadequate. Examples of such situations are: Multiple process hook-ups employing a common solution; Sink-processing set-ups controlling a large volume of tempering water and processing laboratories where the ambient room temperature is unusually high. A further advantage of the water-cooled Model 40W is that it eliminates discharge of warm air into processing rooms, many of which are air conditioned, **$1.300**

LAWLER LTC TEMPERATURE CONTROL is a thermostatic unit made of brass with internal moving parts of stainless steel.



Fully automatic within all desirable photographic temperatures. Has tailpipe for delivery of water to water jacket or sink, supplied with either single or double outlet. Choice of rough brass or polished chrome finish. Capacity 6 to 9gpm, in rough bronze, **$120** polished chrome, **$142**; 10 to 14gpm, bronze, **$133**; chrome, **$155**; 15 to 20gpm, bronze, **$157**; chrome, **$174**

LAWLER MASTER PHOTOGRAPHIC TEMPERATURE CONTROL automatically provides complete thermostatic temperature control for photographic processing. Attaches to regular hot and cold water supply lines. 16½x22¼x6″ dimensions. Reads incoming water temperature and pressure for both hot and cold water; reports temperature of tempered water delivered to sink as well as temperature in water packet. Ten position volume control is easily changed to deliver blended tempered water as needed. Industrial-type blending temperature valve handle makes positive blending easy. 6 to 20 gph. **$660**

LAWLER PRESSURE BALANCING VALVES, PLATE #2235, to maintain equal water pressure in the supply lines to the final control fixtures; finished in rough bronze or polished chrome, ½″ size for up to 15 GPM capacity units, bronze, **$30**; chrome, **$41**; ¾″ size for up to 20 GPM capacity units, bronze, **$39**; chrome, **$53**

LAWLER TEMFLOW PHOTOGRAPHIC TEMPERATURE CONTROL provides "self control" for water jackets. Reports not only actual water temperature, but automatically adjusts tempered water supply to balance at desired temperature. Attaches to regular hot and cold water lines. In sinks, tanks and photofinishing jackets. 13x13x5″. Easily installed. 6 to 9 gph. **$260**

LAWLER TYPE WHIRLTEMP, #2172, temperature control is a thermostatic unit made of brass with internal parts of stainless steel. Fully automatic within all desirable graphic arts industry temperatures, as used on plate whirlers. Unit completely assembled and finished in rough brass. Capacity 6-9 GPM, **$91**; 10-14 GPM, **$101**; 15-20 GPM, **$107**

LEEDALL PACKAGE TEMPERATURE CONTROL UNIT converts your present sink to temperature controlled unit. Compact and easy to install, units come with water cooled compressor (46 to 138 gal/HR.) in type 316 S.S. cabinet. For 3 tray sinks; **COOLING ONLY**; requires Leedall Thermostatic Water Mixer for accurate control, mixes refrigerated water with building hot water. For 16x20″ tray sink, **$410**; 20x24″, **$595**; 30x40″, **$824. COOLING AND HEATING**; with recirculating pump, accurate to ±½°, does not need Thermostatic mixer. 16x20″, **$652**; 20x24″, **$795**; 30x40″, **$1,091**

LEEDALL THERMOSTATIC WATER MIXER automatically blends hot and cold water at required temperature within 60-135°F. range. Accuracy within ±½°F protects negatives, and prints. Maintains desired setting regardless of supply pressure or temperature variations, **$160**

MORSE TRAY-TEMP M-80 is a molded rubber reservoir base unit which is connected to water faucets with rubber tubing, provides water bath with a constant or intermittent flow of hot, cold, or tempered water beneath your tray, maintaining temperatures within a degree or two. 11x14″ size, **$5.95**

PAKOTEMP controls solution temperatures accurately and automatically, regardless of weather conditions. Provides refrigeration or heat, correctly proportioned, to positively maintain temperatures of water-jacketed or cold panelled solutions within variations as little as plus or minus ½°. Two simple, non-corrosive plumbing connections, one electrical connection make easy installation. One thermostat, three switches give complete control. Four models. **$425** to **$875**

POWERS FOTOGUARD thermostatic water mixer, provides control of water temperature. 4″ dial thermometer gives constant indication of temperature of water being delivered. ½″ volume control and shut-off valve. ½″ vacuum breaker prevents chemical solutions from being siphoned into water supply. ½″ strainer check-stops traps foreign particles, prevents interchange of hot and cold water, permits cleaning. **$160**

ROLOR THERMOSTATIC WATER TEMPERATURE CONTROL UNITS have precision water temperature control components grouped in a single stainless steel unit consisting of: a panel-mounted ¾″ thermostatic mixer (20 gpm. cap. ±¼°F. tolerance) with vernier temperature selection, MODEL RT-10 mercury-actuated thermometers to indicate water output and jacket water temperature, or a given solution temperature. With remote sensing probe, **MODEL TC-1, $425. MODEL TC-2,** as above, but with vacuum breaker and Model EV-1 pressure equalization valves, **$495**

ROLOR THERMOSTATIC WATER MIXING VALVE MODEL MV-1 features a sensitive thermostat to maintain desired temperatures within ±¼°F. Has full ¾″ inlets and outlets, allowing up to 20 GPM delivery. Complete with vacuum breaker and a highly readable dial thermometer indicating the output water temperature. Keyed valve stops and protective filter screens. Polished chrome on brass construction. **$189**

ROLOR WATER PRESSURE EQUALIZING VALVE, MODEL EV-1 is used with Rolor Thermostatic Water Mixing Valve, Model MV-1 or similar ¾″ mixing valves. Insures steady water pressure to valves in difficult installations where other similar equipment on same line produces conflicting pressure demands, causing erratic valve operation. **$65**

STOUFFER #14-2 TEMPERATURE CONTROLS for Water Jackets, Guardian type, intermittently inject a few ounces of hot or cold tempering water into jacket at high velocity to mix and assure accurate temperatures within 1° or less. Unaffected by wide variations in water pressure or temperature. Electrically actuated valves indefinitely withstand abrasive and corrosive effects of problem water supplies. Uses less than 1 gal. of tempering water per hr. for 20 gal. jackets. Assembled, pressure tested and mounted on 16x20 panel, with Vacuum Breaker, **$169.50.** Model 15-2 accurate to ¼° or less, with vacuum breaker, **$221.50**

STOUFFER MODEL 30 THERMOSTATIC WATER MIXER has three inlets for hot, cold and tap water. Electrically controlled valves maintain desired temperature range within ½°. Electrical control and actuation assures precision accuracy. Unaffected by wide variations in water pressure or temperature. Indefinitely withstands action of abrasive and corrosive water supplies. Available in models from ½″ pipe to 2½″ pipe and from 6 to 200 gals./min., **$240** to **$830.** Accessory signal for supply failure, **$63**

STOUFFER WASHER TIMING VALVES for print & film washing. ½″ valve, hand set, **$40.50**; ½″ valve, automatic reset, **$66.50**; ½″ valve, remote controlled, **$81.50**; ¾″ valve, add **$32.** Accessory signal for any of above, **$12.50**

WATERBOY AUTOMATIC water timer valve can be attached to any regular plumbing system. Overall length, less hose adapter 3 7/16″. Weight, 1½ lbs., Inlet, ½″ iron pipe thread with female hose adaptor. Outlet, 2/8″ iron pipe and male hose thread. With 1 hr. timer, **$11.50**; 2 hr. timer, **$13.50**

sinks & duckboards

ARKAY PS-1624-2 PORTABLE SINK will increase your efficiency and output. Locate it where you need it. Ideal for use with an overflow-type washer, tank, etc. Made of stainless-steel, double lock seam construction. Accommodates Arkay 58-D Film Washer or any combination of smaller over-flow-type units. 17½ x 25½ x 2″, **$25.95. MODEL SS-1624 SINK STAND** designed especially for the PS-1624-2 Portable Sink, heavy gauge steel with welded corners, adjustable leg bolts. Lower shelf, 16¾ x 24⅝ x 29½″. **$23.45**

GRAFIC FIBERGLAS DUCKBOARD is a corrugated plastic that makes a practical darkroom sink base. Sturdy, light 8″ deep, from **$121**; 10″ deep, from **$127.05**

GRAFIC STAINLESS STEEL SINKS, made of new Type 316 stainless steel, are available in two styles and 256 standard stock sizes. Every tank has 1½″ stainless steel drain. Heavy steel angle Iron stand; large recessed shelf; leveling screws on each leg. 38″ overall standard height. Styles 4″ deep, from **$108.90**; 6″ deep, from **$114.95**; 8″ deep, from **$121**; 10″ deep, from **$127.05**

LEEDAL PROCESSING SINKS are made of Heli-Arc welded type 316 stainless steel construction, set on a heavy, electro zinc-plated, sky line base painted with 3 coats of acid-resisting rubber-base enamel. Matching shelves available as accessories. Adjustable feet. Non-sweat coating. Rounded rim corners. Available in 31 sizes, from 22x36x5″ to 47x120x10″, **$169.50** to **$681.70.** Accessories include: Towel Bar, **$9.25.** Wood Duck-Board, **$19.40** to **$122**; Stainless Steel Duck Board, **$29** to **$183**; Removable Stainless Steel Standpipe, 3″ water level, **$5.60,** 4″, **$5.90**; 6″, **$6.50**; 8″, **$7.20**; Electro zinc-plated shelf, **$42.50** to **$148.20**; stainless steel storage shelf, **$84.50** to **$298**; Thermostatic Water Mixer, **$160**; Drip Guards, **$9.50** to **$14.95**

see pages 13 & 14
for other sinks,
tanks and trays

processing equipment, cine

ANDRE DEBRIE AIGLONNE, Model D, is an automatic daylight movie film processing unit. Available for 16mm and 35mm negative-positive, and 16mm reversal black-and-white film. Contains no leader and need for elevator is eliminated. No replenishing of solutions. Automatic proportional feed system drains exhausted solution at rate directly proportional to amount of film passing through machine per unit of time. Automatic threading. Takes short strips (4′ minimum) perforated or unperforated. High turbulence development. 16mm speed, 410-1,300′ per hour. Negative-positive, **$4800**; reversal, **$5200.** 35mm speed, 230-720′ per hour. 3 controls, 2 thermometers, air filter, rotary air blower, processing temperatures to 130°F. 110-volts AC-DC, 7½ amps., 750 watts. Water consumption, 1½ gals. a minute. **$4500**

BRIDGAMATIC FILM PROCESSING MACHINES automatically develop, wash, and dry negative, positive, or reversal film. Feature overdrive mechanism for film tensioning, nylon bearings, stainless steel tanks, built-in air squeegees, dry-box, blower heating elements. All 110 volt 60 cycle AC unless otherwise specified. **MODEL K JR.** for 16mm, processes 600′ pos., 180′ neg. & 215′ soundtrack/hr., 51x21x23″, **$1,241. MODEL M** for microfilm, as above with additional wash tank & spray bar. 10″ longer, **$1,495.** Sub base for either model houses compressor, pumps, etc., **$105. MODEL L** 16/35mm, same as Model K, with Continuously Variable Speed Control, 57x46x27″, **$1,987. JR. MODEL N,** 16/35mm. Same as Model M, with Continuously Variable Speed Control. 69x46x27″, **$2,562. MODEL 216D** 16mm, processes 1800′ pos., 510′ neg. or 720′ soundtrack/hr., 76x24x44″, **$2,945. MODEL 316D,** 16mm. Processes 3000′ pos., 900′ neg., 1080′ soundtrack/hr., 96x29x54″, **$4,364. MODEL RN16/35,** 16/35mm. Processes 1080′ pos., 300′ neg., or 360′ soundtrack/hr., 76x44x24″, **$4,364. MODEL 316D35,** 16/35mm. Processes 1350′ pos., 450′ neg., 540′ soundtrack/hr., **$5,775. MODEL RA** reversal for 16mm, designed for new pre-hardened emulsions including Eastman Tri-X Reversal. Processes up to 1200′ per hr., 76x24x50″, **$2,995. MODEL RATC**—Same as RA but with complete temperature control system with thermostat, stainless steel R-6 recirculation pump, plumbing and stainless steel spray balling developing tank. Also equipped with oiless rotary air compressor to supply stainless steel air squeegee. **$3,910.** With bottom drains, **$400** extra. **MODEL RA-40** for 16mm reversal, negative, positive film. 1200′ daylight magazine, stainless steel tanks, feed-in elevator, variable speed drive. 82x56x27″, 115V 60 Cycle AC, **$3,950. MODEL RA-40TC** as above, but with temperature control system, **$4,865. MODEL RA-60** Heavy Duty 16mm reversal. 10′6x30″, 220 volt single phase 60 cycle AC, **$8,340. MODEL RA-90** for all 16mm films, processes up to 5400′/hour. 13′x5′x30″, **$14,800**

FILMLINE AUTOMATIC DEVELOPING MACHINES are available in 16mm and 35mm models. 16mm Negative-Positive Processors: Model K, $1241; Model 216D, $2,945; Model 316D, $4,364; Model 316DS, $9,650; Model 416D, $17,380. Combination 16mm & 35mm Negative-Positive Processors: Model L, $1,987; Model N16/35, $4,364; Model RN16/35M (microfilm), $5,210; Model 316D35, $5,775; Model 316D35M (microfilm), $6,575; Model 416D35, $19,745. 16mm Reversal Processors from **$2,995** to **$14,800**

HI-SPEED FILM PROCESSOR features full daylight operation with magazine loading; operates at 50 ft. per minute positive, 25 ft. per minute negative, 16mm or 35mm interchangeably without conversion or adjustment. All spray design with impingement drying produces professional laboratory quality. Pull-through time of three minutes; minimum solution volume for efficient and economical production of intermittent work and moderately high volume requirement. Constructed entirely of stainless steel and first class commercial components. Dimensions 20″ wide, 54″ long, 64″ high. Model FA-50, **$9,980**

MORSE G-3 DAYLIGHT DEVELOPING OUTFIT makes it possible to see your black-&-white movies the same day you shoot them. Requires only 2 pints developing solutions for double-8 or 16mm film, 3 pints for 35mm film. After loading, all operations performed in bright light. Adjustable reels accept up to 100 feet double-8, 16mm or 35mm film. Light-tight cover and funnel opening; drain plug at bottom of tank. Agitation and even development of entire roll accomplished by winding and rewinding film through solution. Secondary exposure (for reversal films) made through window in front of tank. Reels and metal parts stainless steel; tank and cover of acid-proof molded bakelite, can also be used for processing micro-film, **$34.50**

NIKOR MOVIE FILM PROCESSING MACHINE processes 28, 50, 80 or 100 ft. of 16mm, 35mm, 46mm, 70mm, 89mm or 105mm film without removing from reel. Open construction of stainless steel, electrically welded reel permits solutions to circulate freely over entire film surface. Reversible film or color film can be flashed directly on reel without rewinding. Loading and drying stand is compact, light; reel can be loaded with ease. Stainless steel processing tanks nest together for storage. Developing tank is light-tight, has agitating device in center of cover. Outfit consists of reel, loading stand, developing tank with agitator, 2 open tanks. **16MM, 35MM, 46MM or 70MM OUTFITS: 28-ft.,** complete, **$279.95;** reel only, **$123.43;** loading stand, **$67.14;** tank with agitator, **$48.95;** 2 open tanks, **$40.43. 50-ft.** outfit, complete, **$289.95;** reel only, **$129.23;** loading stand, **$67.14;** tank with agitator, **$51.25;** 2 open tanks, **$42.33. 100-ft.** outfit, complete, **$299.95;** reel only, **$135.02;** loading stand, **$67.14;** tank with agitator, **$53.55;** 2 open tanks, **$44.24. 105MM OUTFIT,** 100-ft., complete, **$386.64. OUTFITS FOR HEAVY BASE FILMS:** 80-ft.; 70mm., **$299.95;** 89mm (3½″), **$356.85;** 105mm, **$386.64. DRYING MOTOR ATTACHMENT:** Fits any of above outfits, **$29.95**

sheet film tanks

GRAFIC STAINLESS STEEL CUT FILM SETS consist of two stainless steel insert tanks set into a stainless water jacket large enough for three insert tanks. With brass pipe threaded fittings for water inlet and outlet. Center section can be used for washing if desired. #10, 2 qt., 4x5″, **$58.08;** extra insert tank, **$9.98;** lid, **$3.63;** cover, **$11.49;** jacket, **$38.11.** #11, 2 qts., 5x7″, **$51.42;** extra insert tank, **$11.62;** lid, **$3.63;** cover, **$10.89;** jacket, **$28.19.** #12, 1 gal., 5x7″, **$65.34;** extra insert tank, **$13.31;** floating lid, **$4.24;** cover, **$12.70;** jacket, **$38.72.** #13, 3½ gal., 8x10″, **$106.48;** extra insert tank, **$19.36;** water jacket, **67.76;** floating lid, **$6.05;** cover, **$16.94,** #14, 7 gal., 5x7″, **$173.75;** extra insert tank, **$32.43;** jacket, **$108.17;** floating lid, **$12.10;** cover, **$28.43.** #15, 10 gal., 8x10″, **$235.95;** extra insert tank, **$54.45;** jacket, **$127.05;** floating lid, **$13.31;** cover, **34.48**

GRAFIC TYPE 316 STAINLESS STEEL PROFESSIONAL CUT FILM TANKS are double-seam construction. 2 qt 5x7″, **$11.62;** gallon 5x7″, **$13.31;** floating lid, $4.24. gal. 8x10″, **$13.62;** 3½ gal. 8x10″, **$19.36;** lid, **$6.05.** 7 gal. 5x7″, **$32.43;** lid, **$12.10.** 10 gal. 8x10″, **$54.45;** lid, **$13.31.** 3½ gal. 11-14″, **$29.65**

KODAK WATER DISTRIBUTOR (For Kodak Hard Rubber Tank, 8x10)—Plastic tube with holding clip. Provides water distribution for best washing action of film and paper when processing in the 3½ gallon Hard Rubber Tank. **$6.50**

LEEDAL DAYLIGHT DEVELOPING TANKS have light-tight covers, are made of Heli-Arc Welded Type 316 stainless steel construction. Model 307-DL, ½-gal., 4x5, 12 hangers, **$25.90.** Model 302DL, 1-gal., 5x7, 12 hangers, **$29.90.** Model 301-DL, 1-gal., 8x10, 6 hangers, **$33.90.** Model 304-DL, 3½-gal., 8x10, 18 8x10 hangers, 24 5x7 hangers, or Kodak or Leedal hanger rack and Leedal Saran print basket, **$42.75**

MORSE COLOR FILM PROCESSING OUTFIT, M-70 Series, may also be used for black-&-white processing. 4x5″ or 5x7″ size, ½-gallon capacity. Polished stainless steel water jacket with stainless steel inlet pipe; rubber-cushioned thermometer well; folding carrying handles; stainless steel splash separators. Genuine full-molded hard-rubber insert tanks with floating covers. Outfits available with capacities up to 5 insert tanks; outfit for 3 tanks, with tanks and covers, **$59.50;** 5 **$84.50;** 5x7″ hard rubber insert, ½-gallon capacity, **$3.45.** Floating cover **$1.05**

MORSE HARD-RUBBER TANKS for black-&-white or color processing, hold up to six 3¼x4¼″, 4x5″ or 5x7″ standard film hangers. Half-gallon capacity; seamless construction. Tank, #D-8873, **$3.45;** floating cover **$1.05**

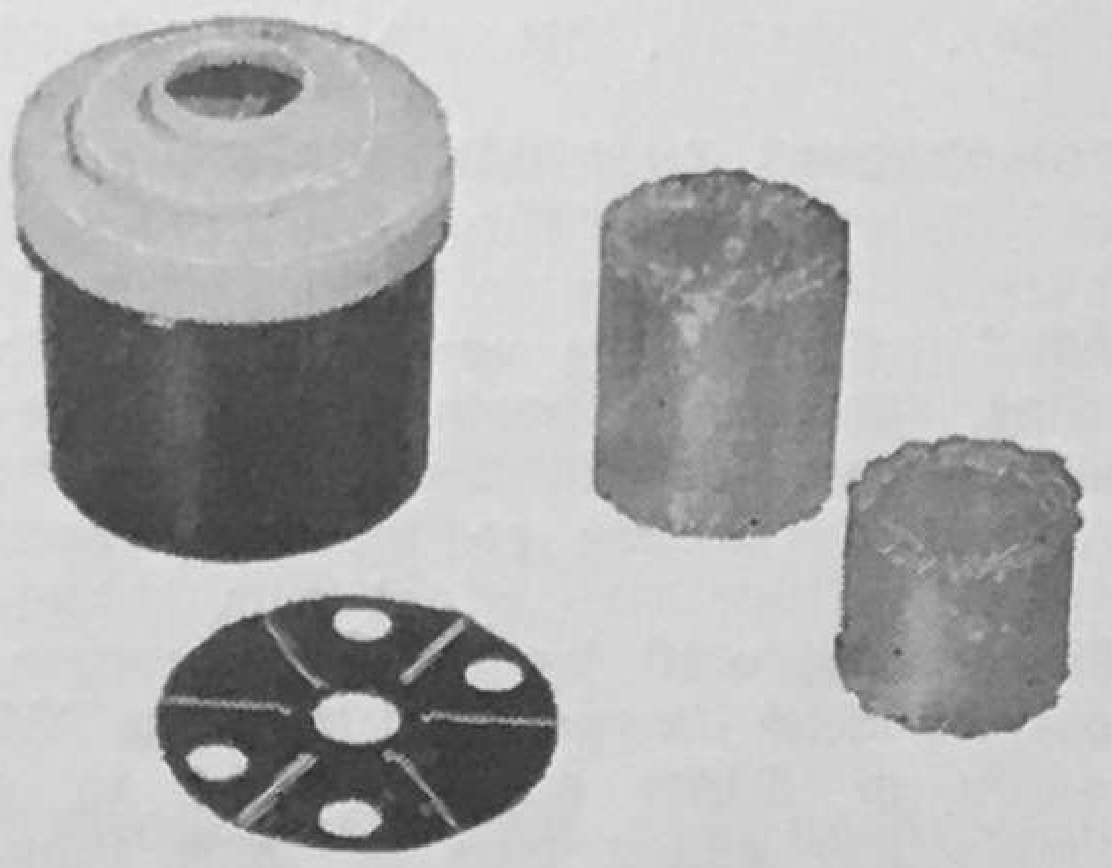
MORSE DAYLIGHT DEVELOPING OUTFIT #507 includes 3 hard rubber tanks, 2 floating covers, one light-tight film holder with cover; permits developing up to sixteen 5x7″ films on standard film hangers; will also accept 4 standard rollfilm reels. Loaded film holder may be transferred from one solution to another in daylight; solutions enter through series of light-tight grids; affords thorough manual agitation and complete washing. Solutions may remain in tanks when not in use. 1½ gallon chemical capacity. **$92.50**

NIKOR ADJUSTABLE CUT FILM AND FILM PACK TANK. Same stainless steel material and assembly specifications as the NIKOR ROLLFILM tanks. Accepts 12 films from 2¼″x3¼″ to 4″x5″. Holds 36 oz. fluid. **$25.20**

NIKOR MINIATURE CUT FILM TANK with rack and loader, for 12 2¼x3¼″ and 2½x3½″ cut films, **$11.35**

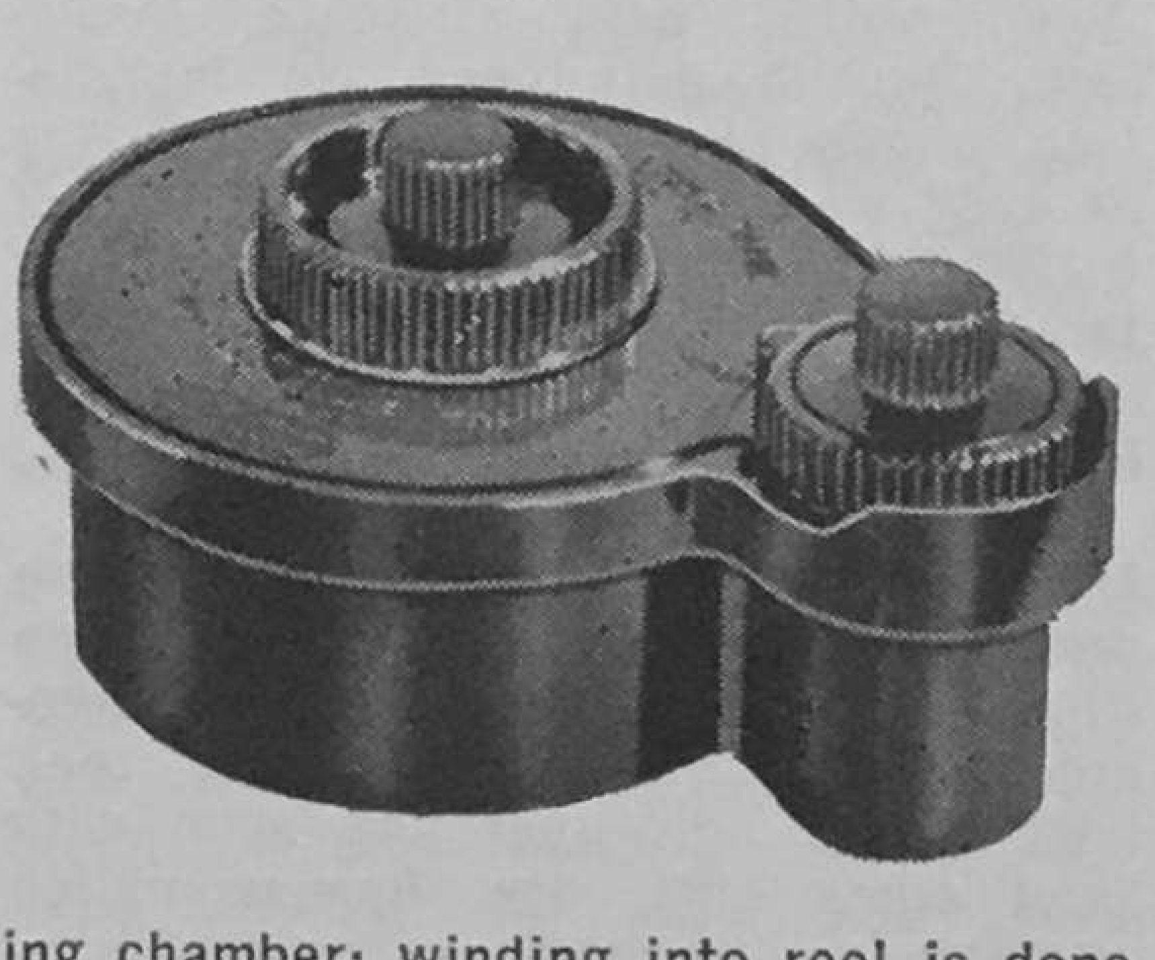
roll film tanks

KODACRAFT ROLL-FILM TANK loads and pours easily. Holds 16 ounces of solution. After loading, all processing can be done in a lighted room. Tank is made of durable, chip-proof Tenite. Included are film aprons for #620-120 and 127 films. Solutions can be changed without opening tank. **$3.25**



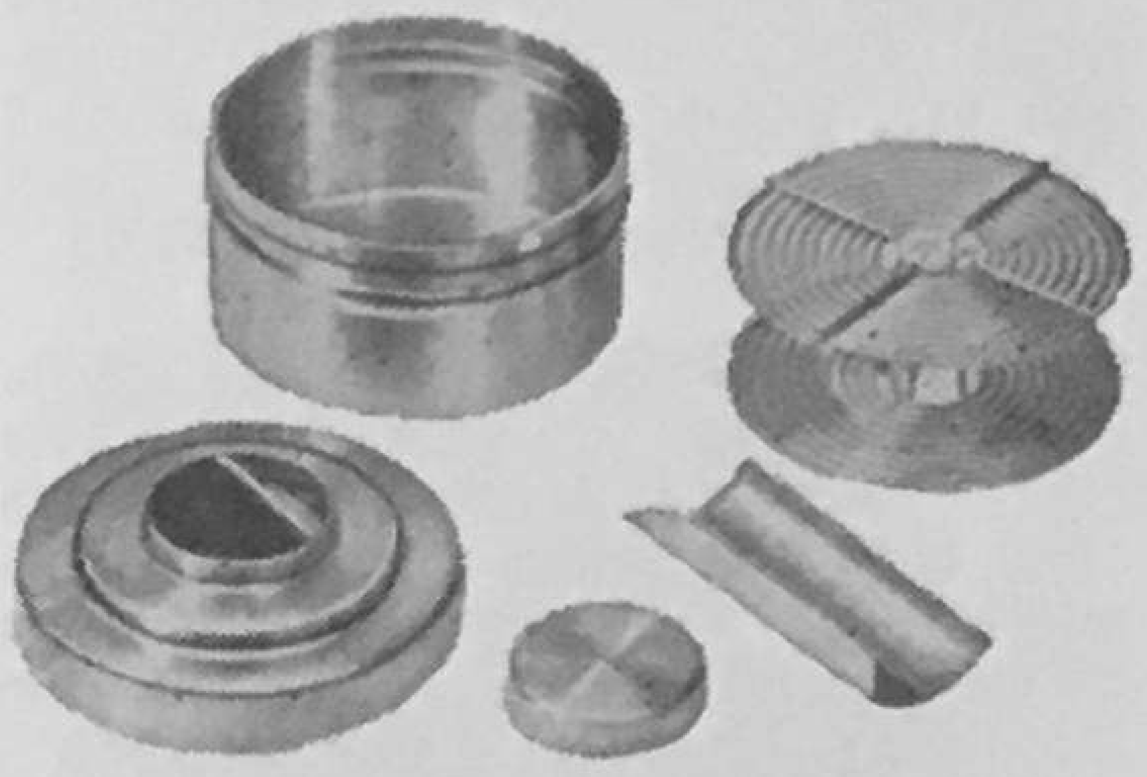
KODACRAFT MINIATURE ROLL-FILM TANK permits simultaneous development of two rolls of #135 or 828 film. After loading, all developing operations can be safely carried on in a fully lighted room. The two identical aprons (supplied) will accommodate either 20- or 36-exposure 135 or 828 film. Solution can be changed without opening the tank. **$3.25**

KODAK DAY-LOAD TANK is for daylight loading and processing of 35mm black-&-white or color film, either 20 or 36 exposures. Cartridge is placed in loading chamber; winding into reel is done in full daylight with cover attached. Solution capacity 16-oz. Corrosion-proof plastic and stainless steel. **$11.50**



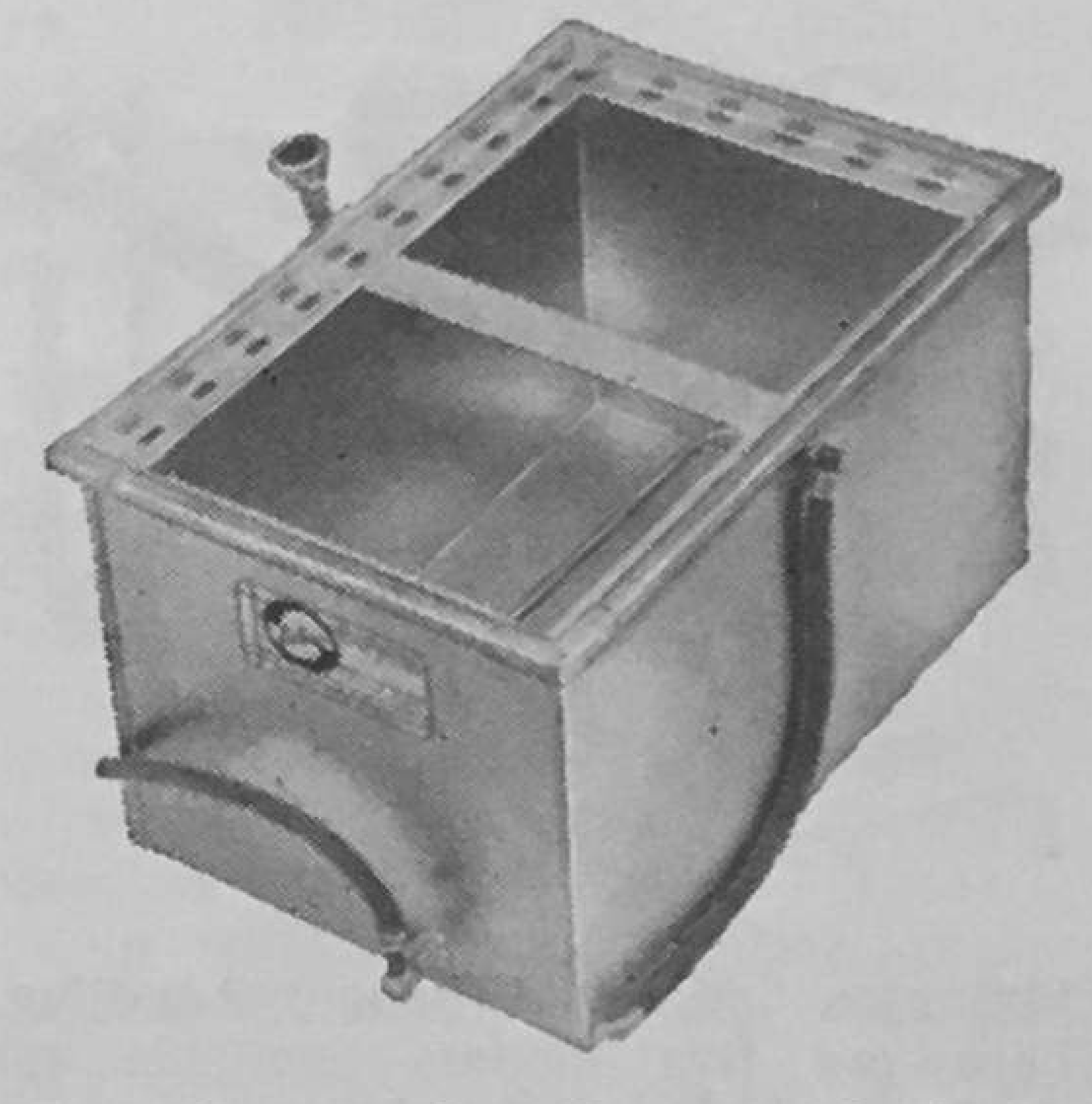
FR "SPECIAL" ROLLFILM DEVELOPING TANK is adjustable for all sizes from 35mm to #116. Features translucent reel and removable light trap to permit color processing without removing film. Plastic construction. Patented check-stop prevents unreeling. Capacity 16 oz. Cover lock. With adjustable reel, built-in agitator and cover, **$3.40.** Optional double-flange for multiple 35mm film development, **$1.30.** Extra reels, **$2.29.** Optional center flange for multiple 16mm developing, **$1.30**

NIKOR STAINLESS STEEL ROLLFILM DEVELOPING TANKS (made in U.S.A.) are electrically spot-welded, have spiral reels. Non-corrosive, non-breakable. Cannot absorb or affect chemicals. #1 for VP rollfilm, **$9.95;** #2 for 120 or 620 rollfilm, **$9.95;** #4 for 116 rollfilm, **$9.95;** #5 for 122 rollfilm, **$13.35;** #6 for 118 Kodak film, **$13.35;** #33 for two 35mm rolls, **$12.95;** #35 for one 35mm roll, **$8.95;** Multiple-developing tank without reels, **$10.25;** extra reels, any size, **$4.95** each; tank only for #1, #2, #4 or dual 35 reels, **$6.50;** tank to take #5 or #6 reel, **$7.15;** extra tall tank (12½″) with plain cover and lifting rod, to take eight 35mm or four 120 reels (less reels) **$13.25;** same, 17″, to take eleven 35mm or six 120 reels, **$15.25;** same as above but 22″ to take fourteen 35mm or eight 120 reels, **$17.30;** stirring rod and print paddle, **95¢** tank cap, **55¢** tank loader, **70¢**



film washers

ARKAY FILM WASHERS are made of highly polished stainless steel. Water enters double length of tubing designed with perforations to direct streams of water in angular flow against the bottom and toward the sides of the washer. No dead hypo pockets. No plumbing connections. Heliarc Welded Corners assure long life and durability. Washer empties itself through self drain hose. **Model 58-D,** 14x21¼x14″ deep over-all size, accepts 2 8x10″ Kodak Hanger Racks or 18 8x10″ and 24 5x7″ sheet film hangers, complete with intake and drain hoses, **$65.95. Model 58-S,** same features as 58-D, but smaller, 11x14x14″ deep over-all size, accepts 1 8x10″ Kodak Hanger Rack, 18 8x10″ or 24 5x7″ film hangers, **$37.95**



GRAFIC PAC FILM WASHER is made of stainless steel and is designed to be used only in a sink. Water enters from perforated brass pipe along bottom, overflows top, washing both film and hanger. Extra depth of tank increases spread of fresh water. Washes all size film up to 8x10″, accommodates Kodak hanger rack. Capacity: 8x10″ films or equivalent number of smaller films. Dimensions: 10x13x14″. **$30.25**

GRAFIC VORTEX FILM WASHER, of stainless steel, allows fresh water to pass over full surface of negative. Tops of hangers may be washed. Dirt cannot settle at bottom of tank #75, capacity: 50 to 60 5x7″ hangers, **$58.08.** #78, capacity: 50 to 60 8x10″ hangers, **$72.60**

LEEDAL CYCLONE FILM WASHER is a stainless steel unit with swirling action that keeps fresh water circulation between each negative. Manual water lock.

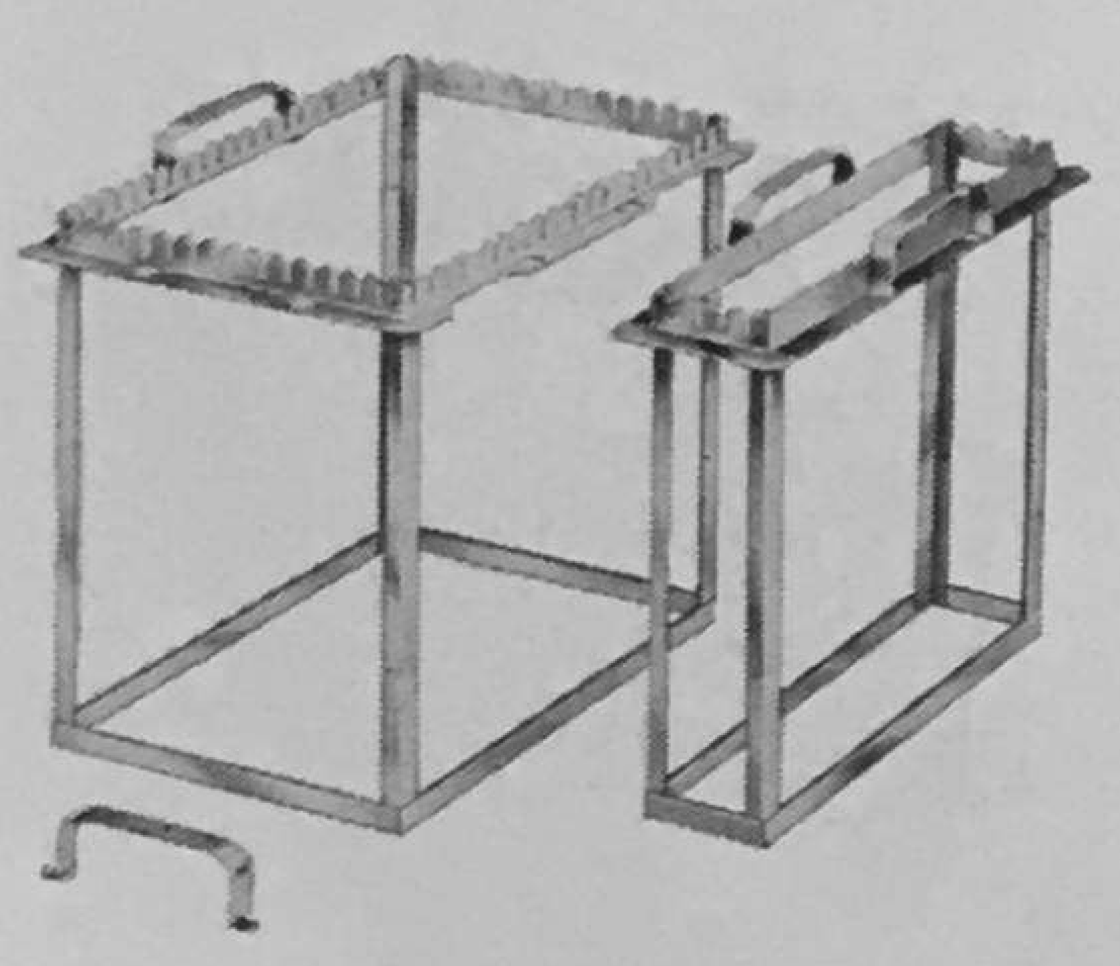
continued on next page

Model 857, for 5x7 and smaller, holds 45 hangers, **$69.90.** Model 810, for 8x10 and smaller, holds 45 hangers, or 2 Kodak #4 or Leedal #304-R hanger racks, **$84.50. LEEDAL QUICK DUMP WASHER** for color processing where an instant change of wash water is desired to prevent contamination. 7 seconds to empty. Holds eighteen 8x10, twenty-four 5x7, Kodak #4 or Leedal #304-R hanger rack and Leedal #304-F Saran print basket. Model No. 805, **$52.90**

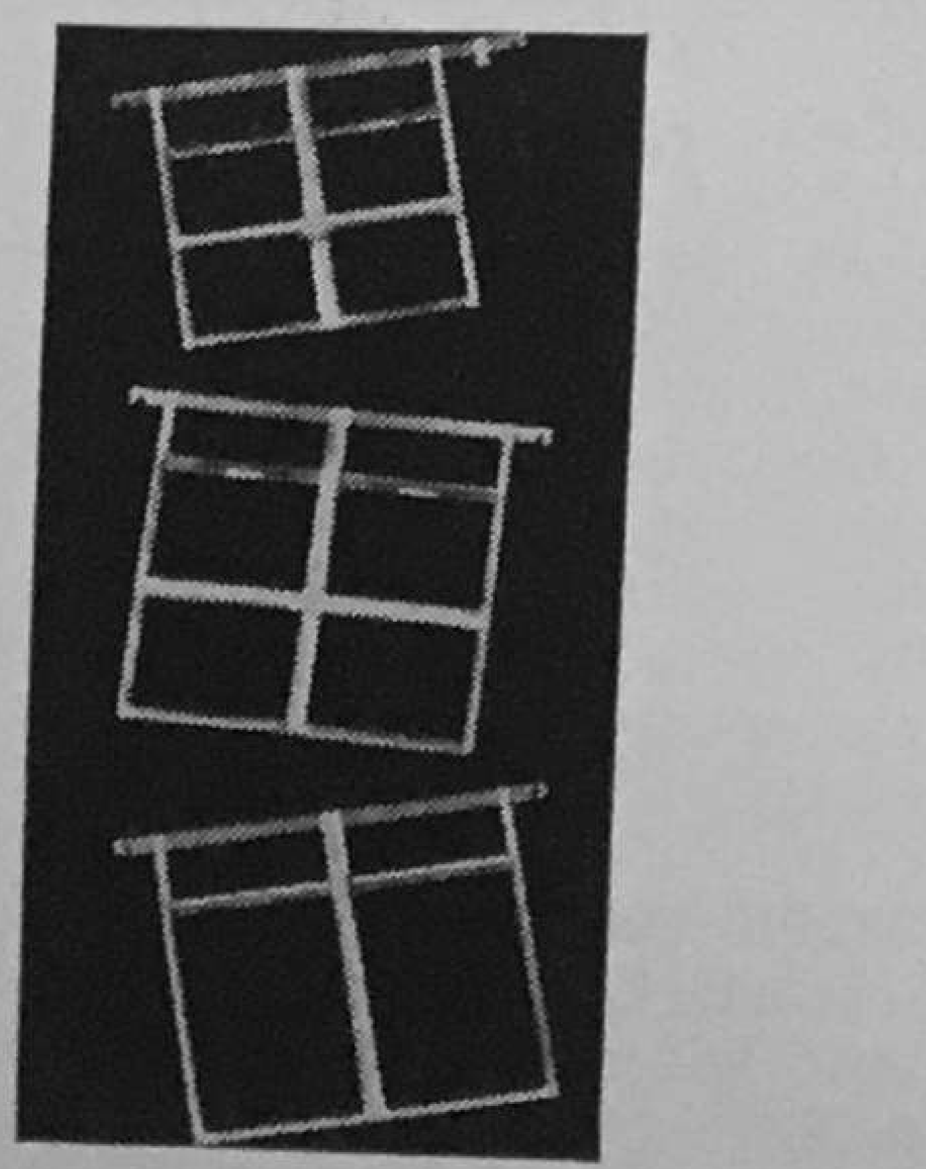
NIKOR ROTO-WASH TANK. Rapid movie film washer for use with Nikor Movie Film Processing Machines. Stainless steel tank with spindle for Nikor reels (all sizes), hose connection. Water pressure rotates reel, 100 ft. of film thoroughly washed in 9 minutes. **$68**

film hangers & racks

ARKAY FILM HANGER RACKS are available in sizes to fit all standard developing tanks. The racks are made of 316 stainless steel and deep slotted on the top sides to accept hangers. The hangers won't rock or sway in use, eliminating danger of damage by contact with film in next holder. Hangers stay in place to shake off excess water. The handles snap in and out in seconds. Full burst bubble distribution is assured by rigid new vertical bar which eliminates horizontal bottom frame angle that blocks burst at sides. Eliminates individual hanger handling. There are five models available for all standard size tanks. Model numbers correspond to tank sizes. **Model 81-14HR** (has Cut Away for Burst Distributors), **$7.95. Model 81-4HR, $7.25. Model 57-4HR, $7.50. Model 45-4HR, $7.50. Model 45-2HR, $6.50**



KODAK FILM AND PLATE DEVELOPING HANGERS #4A for tank development of sheet films or plates. Channel type. Consists of a frame of four perforated channels for rapid draining and uniform development. Top channel hinged for easy loading. 3¼x4¼", each **$2.25;** 4x5", each **$2.25;** 5x7", each **$2.25;** 6½x8½", each **$2.25;** 8x10", each **$2.25;** 9x12", cm, each **$2.25;** 13x18" cm, each **$2.25.** KODAK SHEET FILM DEVELOPING HANGER #5, similar in construction, but for sheet film only. 2¼x3¼", each **$2.25.** All sizes supplied in carton of 6. **KODAK MULTIPLE FILM HANGERS,** for processing various sizes of professional sheet film, simultaneously. For color or black-&-white film. Used in 3½-gallon processing tanks. 4x5", holds 4 films, **$6.50;** 5x7", holds 2 films, **$4**



KODAK FILM PACK DEVELOPING HANGER for use in deep tanks. Holds up to 12 films. **$4.25.** Extra Clips per doz. **$1.90**

KODAK SHEET FILM DEVELOPING HANGERS are made of stainless steel. Convenient clip-type hanger for tank development of sheet films and film pack. Two clips are so positioned on 9" bar that they will readily accept negatives of any size from 2¼x3¼" to 4x5". Model #6, each **$1.35,** supplied in carton of 12.

LEEDAL FILM PACK HANGER holds film pack and sheet film securely during processing and drying. Sheets of film will not slip out even when agitated, will not scratch, load quickly and easily. 2¼x3¼, 3¼x4¼, 4x5. **$1.85**

TOMORROW'S FILM HANGERS are grade 316 stainless steel throughout, reducing hazard of corrosion and chemical adulteration to the very minimum. No clips. No moving parts. Thin line design allows freer chemical flow, greatly reducing streaking and spotting. Load from the side like a cut film holder. Film is secured by opposed grooves, curving film to prevent buckling. 36 4-UPs or 2-UPs may be used in a single 3½ gallon tank at same time. 60 ONE-UPs may be used in a 3½ gallon tank at same time. **ONE-UP;** 4x5", **$1.85;** 5x7", **$2.45; 2-UP;** 4x5", **$3.40;** 5x7", **$4.60; 4-UP;** 4x5", **$5.95**

film dryers

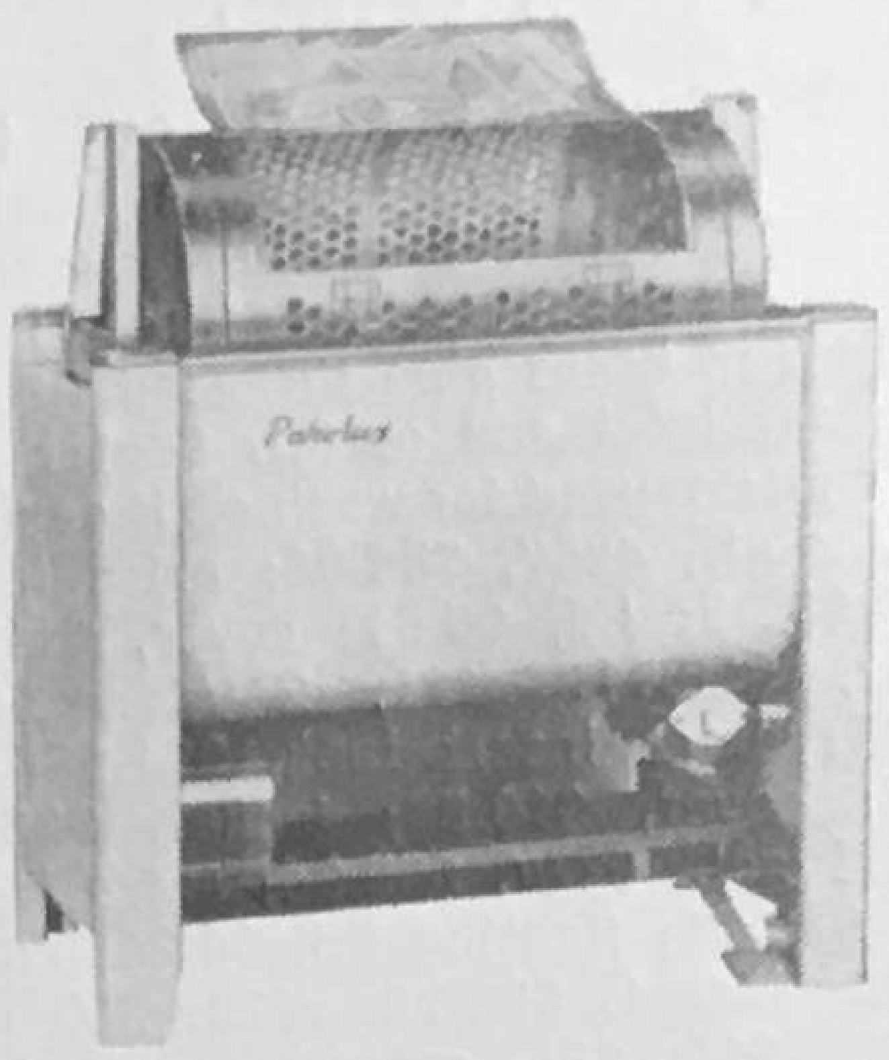
FISHER TABLE TOP FILM DRYER is designed for use where small capacity, yet fast, efficient photographic or x-ray drying is needed. Scientifically engineered to dry film rapidly while keeping the emulsion temperature well within the safety margin. Only filtered air passes into unit through replaceable filter element. Compact, 316L Stainless Steel cabinet is 11x18x36", double-walled with air-space insulation. Built-in auto-timer. No installation, simply plug into 110VAC. Will dry 24-4x5" or 5x7" films or 12-8x10" or 6-12x20" sheets or 14x17" x-ray films in 10 min. With 2 cut film racks, **$215;** add'l. racks, ea., **$18;** X-ray rack, **$42;** Roll film rack, **$42**

MORSE FILM DRYER M-30 is heatless drying unit for 16, double-8 or 35mm film. Has rewind with 4:1 gears, standard spindle, collapsible drying reel. Film wound onto reel and spun with hand crank until dry. Rewind clutch permits reel to rotate with crank disengaged. Capacity: 50-ft of 16mm or double 8mm, 25-ft of 35mm film. **$58.50**

STARR-DRY SPEED NEGATIVE DRIER permits drying in less than half the normal time. It is a special insoluble, highly absorbent product scientifically manufactured to eliminate lint. No danger of damaging or scratching negatives. May be placed in direct contact with negatives. Also excellent for use with most positive papers. 12 sheet package, 8½x10½", **98¢.** 100 sheet package, **$4.90**

print washers

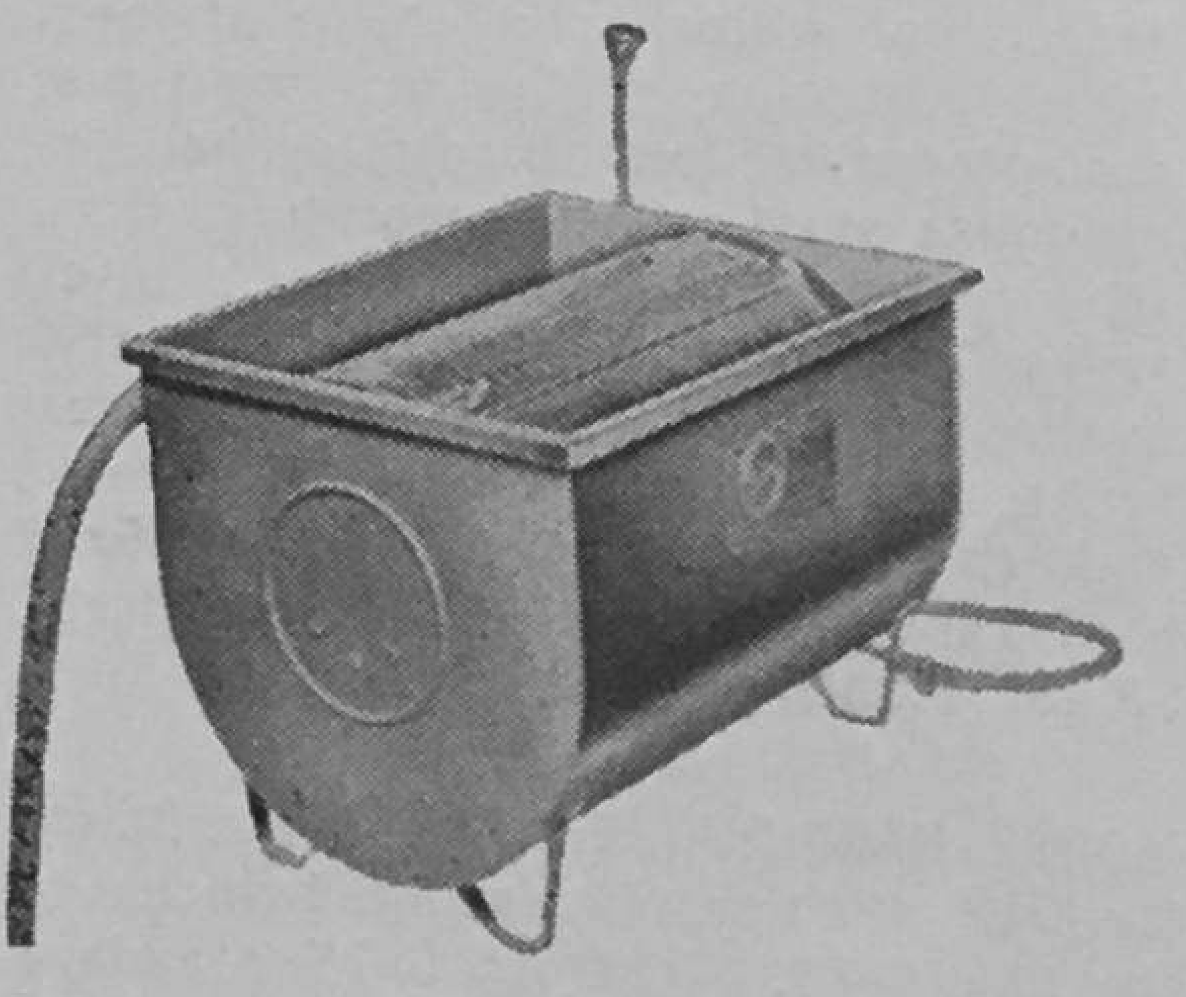
PAKOLUX PRINT WASHER works faster. Features triple-action washing: **mechanical agitation** through continuous rotation of stainless steel cylinder (action unaffected by water pressure changes); **hydraulic agitation** from constant jets of water keeps prints from matting against cylinder sides; **pneumatic agitation** by air injected into wash water. Cylinder, tank and all parts in constant contact with washing solution fabricated of stainless steel or other highly corrosion resistant materials. Accepts prints up to 11x14", capacity 150 8x10" double-weight. 23x36" floor area. Fractional h.p. motor; 115V 60-cycle AC. Consumes 175 watts per hour, 4 gallons of water per minute; 36 gallon tank capacity. Only 3 connections: ½" water inlet pipe, 1¼" drain outlet pipe, electric plug. V-belt drive. Cylinder locks in handy position for loading, unloading; lowers to washing position by touch of foot treadle, **$339**



FISHER CIRCULAR PRINT WASHER PW 336 completely eliminates hypo in the shortest possible time. Made of heavy gauge 316L stainless steel, heliarc welded and passivated. Simple to install; washer is completely factory assembled, has standard ½" water inlet. Siphon overflow drains hypo from washer bottom. Washes 100-8x10" prints every 15 min. Uses only 2⅝ gals. water per min. No mechanical or electrical connections. Requires only 42x42" floor space. Choice of cabinet or leg base, w/legs, **$368;** w/cabinet, **$567**

ARKAY PHOTRIX RAPID PRINT AND FILM WASHER provides constant sweep of water over and under . . . keeps prints and films suspended. Direct action design forces parallel flow of water in multiple powerful jets from pressure chamber. With 3 ft. flexible vulcanized hose. 11x14" model, rust-resistant steel, **$9.75.** 8x10" model, black bakelite, **$5.95.** 11x14" stainless, **$18.95**

ARKAY "1620" LOADMASTER WASHER is operated solely by water power. Constant rotation of perforated cylinder drum gives prints thorough washing. Prints are separated and will not mat together. Can be connected to standard water faucet; intake and overflow hoses and faucet connector furnished with unit. Bottom Hypo drain. Stainless steel and brass construction. Takes single and double-weight prints in all sizes up to 16x20"; capacity 75 prints 8x10" or proportionate quantity of larger or smaller prints. Water flow 1-gallon per minute; tank capacity 10 gallons; six water changes per hour. Measures 19x15x13"; shipping weight 25 lbs. **$94.50**

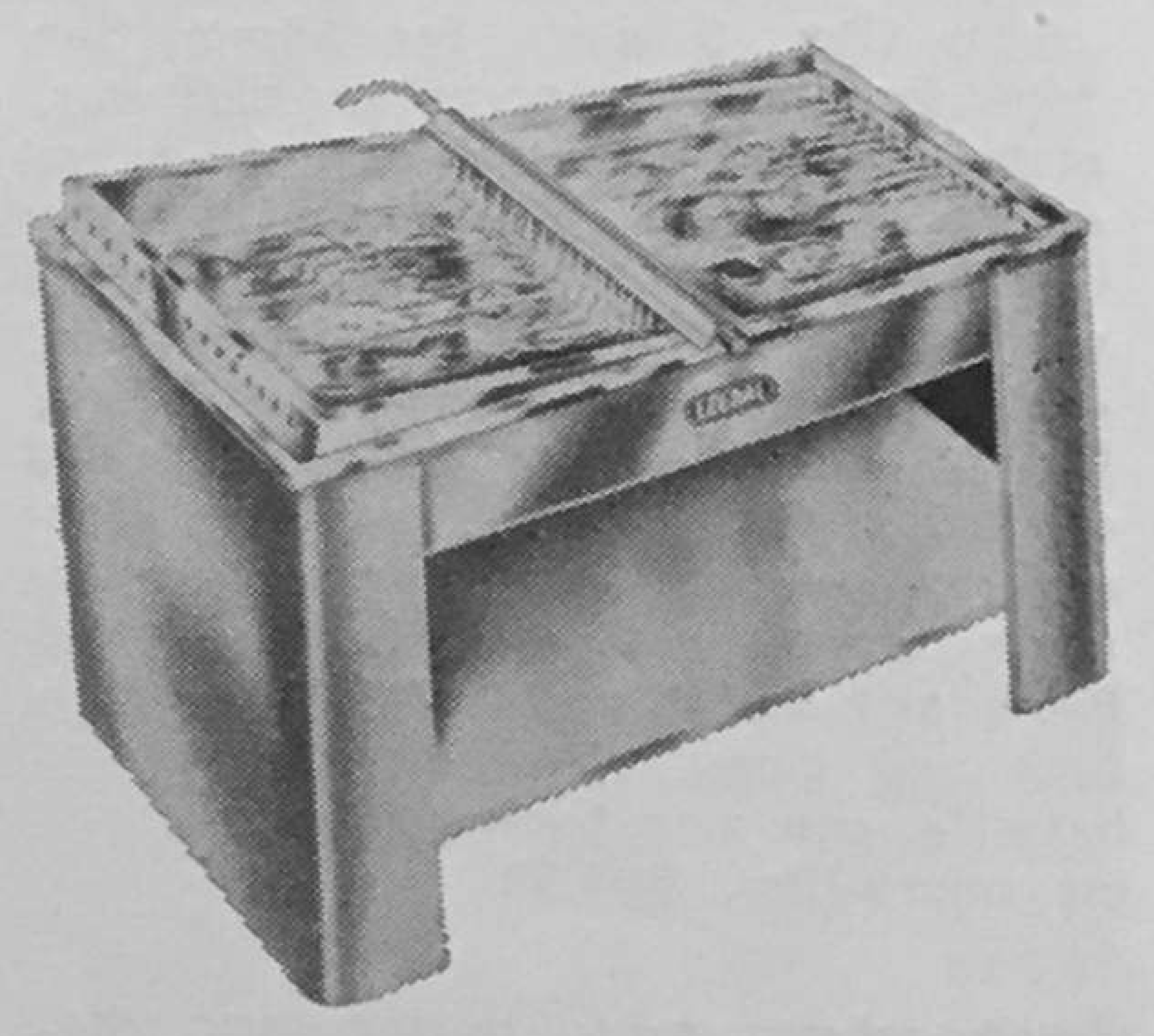


DEHYPO TURBULATOR PRINT WASHER converts any sink or tub into a professional, efficient print washer. Has low drainage point to draw off hypo quickly. Special upright-guards prevent prints from clogging drain. Substantial base adheres to sink or tub by suction. Safety drain prevents overflow. Faucet adapter provides water tight connection to any standard faucet. Complete, **$2.95**

GRAFIC VORTEX PRINT WASHER is made of stainless steel, washes prints up to 11x14". Whirlpool water action separates prints at every turn. Contaminated water flows over baffle, positioned so unit can be set in sink or piped to drain. Baffle is perforated at bottom to permit heavy hypo to escape. Model #70, 15x17" deep, **$32.67;** #71, 19x22x6" deep, **$47.19;** #72, 26x32x6" deep, **$72.60**

KODAK AUTOMATIC TRAY SIPHON converts ordinary tray into print or film washer. Clips over edge of tray; rubber tube attaches to water tap. Siphon regulates outflow and water level, controls water force. Prints are kept in motion as excess heavier hypo-laden water is drawn off bottom **$5.95**

LEEDAL SEA-WAVE PRINT WASHER is completely automatic, consists of 2 separate print-washing compartments, each with its own overflow arrangement and small holes near the bottom to draw out the heavy hypo. Prints are constantly agitated and swished about in wash water by gentle agitating, rocking motion. Stainless steel. Rubber-cushioned bumpers. **Model 1114,** for prints up to 11x14", 100 8x10 single-weight capacity per hour, **$266. Model 2024,** for prints up to 20x24", 240 single-weight prints an hour capacity, **$349. LEEDAL SPRAY-WASHER,** economical stainless steel washer #1004, for prints up to 11x14", 20-25 single-weight prints an hour capacity, **$61.80**



LENZ HI-SPEED ROTARY PRINT WASHERS are unconditionally guaranteed to wash prints "twice as fast at half the cost" by an exclusive patented process of immersing prints in shallow continuously changing fresh water and ejecting hypo outward by centrifugal force without recirculation or recontamination. Washer consists of 2 circular pans, one inside the other, with a spraying unit suspended across the top beneath an all-metal bridge. Inner pan is always open for loading or unloading prints. Adjustable anti-siphon drain holds wash water at any desired depth. Jets of water and injected air propel prints and frictionless inner pan, shuffling, separating, and turning prints twice each round with quiet, spatterless operation. Gently washes most delicate prints—all types, weights, and emulsions. Washes equally, prints of all sizes—a few at a time, or capacity loads. Made of Type 316 Stainless Steel in 4 standard sizes.

Model 48-S (48″) washes 100 14x17″, 175 11x 14″, or from 3 to 6 larger prints up to 1 24x36″ in 40 minutes, **$324. Model 40-S** (40″) washes 100 11x14″, 200 8x10″, or from 3 to 6 larger prints up to 1 20x24″ in 30 minutes, **$252, Model 32-S** (32″) washes 100 8x10″, 250 5x7″, or from 3 to 6 larger prints up to 1 16x20″ in 25 minutes, **$216. Model 24-S** (24″) washes 75 6x8″, 100 5x7″, or from 3 to 6 larger prints up to 1 14x17″ in 15 minutes, **$192**

RICHARD 18″ & 30″ PRINT WASHERS use triple jet action for constant separation, submersion and washing. Continuous drain from center sump. Complete portable unit; no permanent connections to make. No moving parts, nothing to get out of order. Made of smooth, sturdy, white styron. 18″ diameter, accepts up to 11x14″ prints. Cannot rust or corrode. Splash guard and inlet hose with adjustable faucet connector included. Washes 60 double-weight 8x10″ prints in 20 minutes.

Water volume 1½-gallons per minute. Guaranteed for 1 year. Weight 3½ lbs. **$29.95. RICHARD 30″ PROFESSIONAL PRINT WASHER** accepts 125 or more double-weight 8x10″ prints (takes 16x 20's, too). Weighs 10 lbs. Complete with splash cover and 6-ft hose, **$64.50**

print dryers

ARKAY FLIPPER MODEL PRINT DRYERS flat-dry prints in 5 minutes. For matte or glossy prints. Two loading surfaces; load one, flip it over and load the other. Steel welded body. Rods hold apron off drying areas when loading or unloading; curved heating surfaces. Drying surface area 13x18½″. Heat selector, 430-watts, 110-volt AC. Model F-17B, with baked enamel drying surface finish, accepts ferroplate up to 12x17″, **$24.50;** Model F-14B similar, but with 13x15½″ drying surface, 110-volt AC-DC, **$16.95.** Model F-17C has chrome drying surfaces, accepts ferroplate up to 12x17″, **$32.95;** Model F-14C similar but with 13x15½″ drying surfaces, **$21.95**

ARKAY MODEL C-10 PRINT DRYER is a low-priced single-sided unit that accommodates prints to 11x14″. Welded steel body, baked enamel finish. Chrome drying surface. Helically-coiled nichrome heating element; canvas duck apron; support rack holds apron off heating surface during loading; extra tension rod for tightening apron; 4 rubber feet. 11-volt AC-DC 205 watt, **$14.95.** Model E-10, similar, but with baked enamel platen, **$11.95**

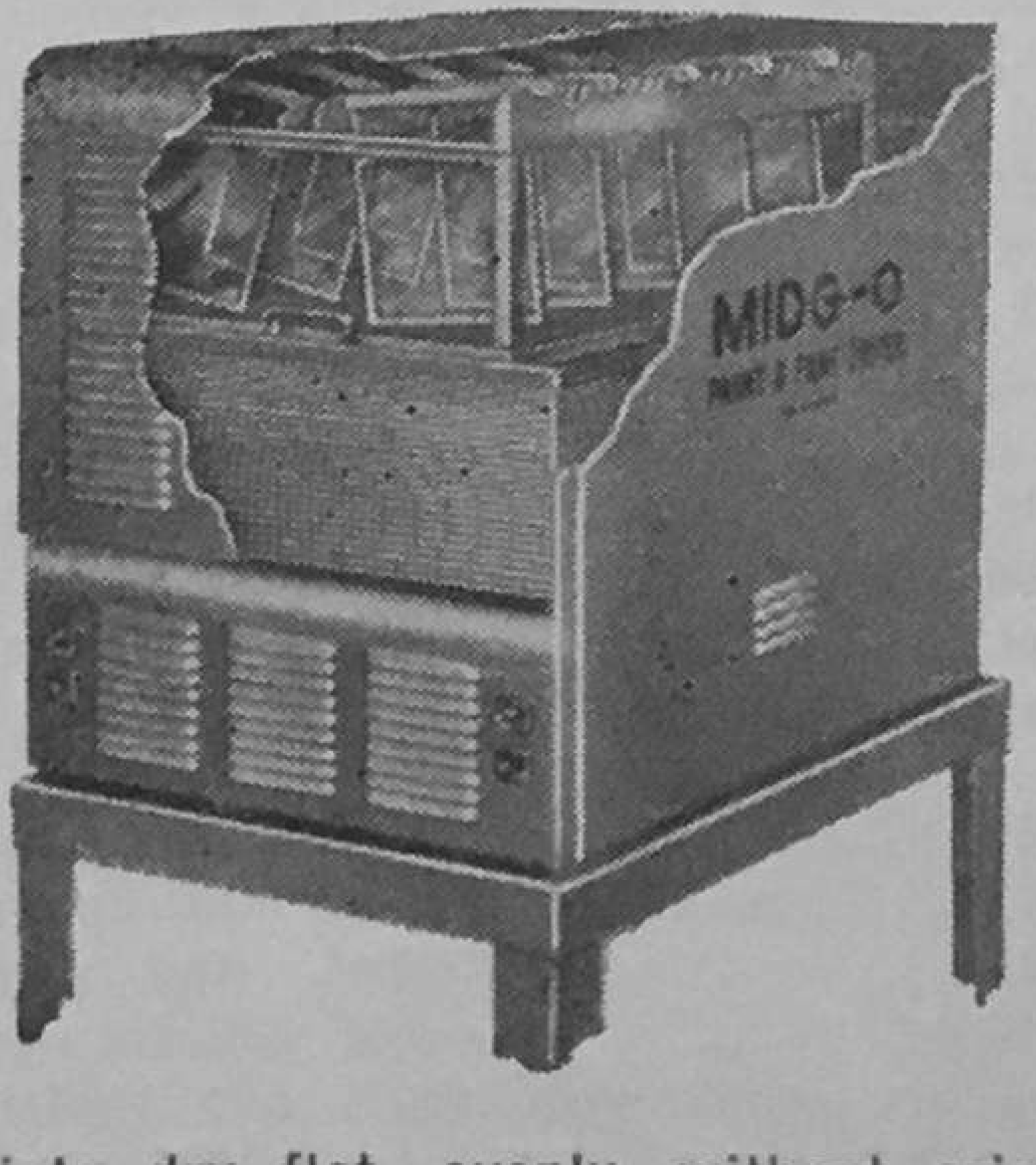
ARKAY PHOTO-DRY PROFESSIONAL ELECTRIC PRINT DRYERS have heating elements that dry by radiation. Silver contact thermostats; variable heat selector (necessary for drying glossy, matte and color prints); gives uniform heat control; variable apron tension; UL approved. Heating surface of heavy steel, copper plated, then chrome plated. Ratchet release for varying degrees of pressure. Equally good drying for matte, glossy and color prints. Flat Bed type surface has advantage of guaranteeing uniform heat (within 5 degrees) for perfect results every time. 110-volt AC.

Model A-20, 775-watts, 15¾x21″ surface, **$48.50. Model A-24,** (illustrated) 1000-watt, 19½x24¾″ surface dries 48 8x10″ single weight prints hourly, **$54.95.** Drying stand (shown), **$29.95**

BESELER 1217K AUTOMATIC ROTARY DRYER accepts prints up to 16″ wide. Dries 56-60 single weight 8x10″ prints, glossy or matte, per hour. Special copper lined seamless drum for uniform distribution of heat—no print sticking. Terminal timer permits drum to rotate for 30 mins. with heat off for efficient cooling. 900 watts, 110-115 volts AC. **$395. ($405 Denver West)**

LOTT ROTOMASTER PRINT DRYER has 23x28″ surface built-in squeegee, mirror-finish stainless steel drum, adjustable curtain tension, thermostatic temperature control. All welded construction. **$69.95. LOTT STANDARD PRINT DRYER** has 12x28″ surface, dries 30 8x 10″ prints an hour. Built-in pilot light. Uses 180W on 115V AC or DC. **$34.95. LOTT PROFESSIONAL PRINT DRYER** has 23x28″ surface, preshrunk canvas drying belt, built-in pilot light. Uses 300W on 115V AC or DC. **$49.95. DRUM-MASTER PRINT DRYER** has 11½x17″ drum drying surface. Accommodates 1 11x 14″, 2 8x10″ 4 5x7″ prints. 110V, 125W unit. Aluminum construction, except for stainless steel drum. **$17.95**

MIDG-O MASTER is a high-production dryer for prints and film. Offers economy of fast drying, plus print quality control and simplicity of operation.



Prints dry flat, evenly, without crispness, guaranteed to retain color brilliance in type C materials. 19x24″ model is custom-built, will dry prints up to 16x20″, can handle 200 8x10″ glossy or matte prints in about 90 minutes. Comes with stand and a hood for film drying. **$249.50** with 120 lb. blotters. With muslin blotters, **$276. MIDGO** 14x20 Model dries up to fifty 8x10 prints in one hour. No warm-up time; no steady attendant. **$91.75.** With muslin blotters, **$99.50**

PAKONOMY ELECTRIC HEAT DRYER MODEL 13 is equipped with 13″ seamless drum. Handles B/W glossy prints and squeegee roller release permits drying of matte prints as well. Optional metal stand with levelling screws on each leg available. Accommodates prints up to 12″ wide. Apron speed adjustable from 6 to 20″ per minute. Approximate output 100 S.W. or 65 D.W. 8x10 prints per hour. 23″ wide, 57″ long, 37″ high (without stand). $400; stand, $48

PAKONOMY ELECTRIC HEAT DRYER MODEL 26 is equipped with 26″ seamless Superdrum. Handles B/W glossy prints and squeegee roller release permits drying of matte prints as well. Accommodates prints up to 24″ wide. Apron speed adjustable from 6 to 20″ per minute. Levelling screws on each leg. Approximate output 230 S.W. or 150 D.W. 8x10 prints per hour. 36″ wide, 57″ long, 69″ high. **$595;** w/Glossy Strip Drying accessory, **$755;** w/Chrome Stainless Steel Drum, **$820;** w/Both Drum & Glossy Strip Dry access., **$980;** w/Matte Strip Drying accessory, **$825;** w/both Drum and Matte Strip Dry access., **$1,085**

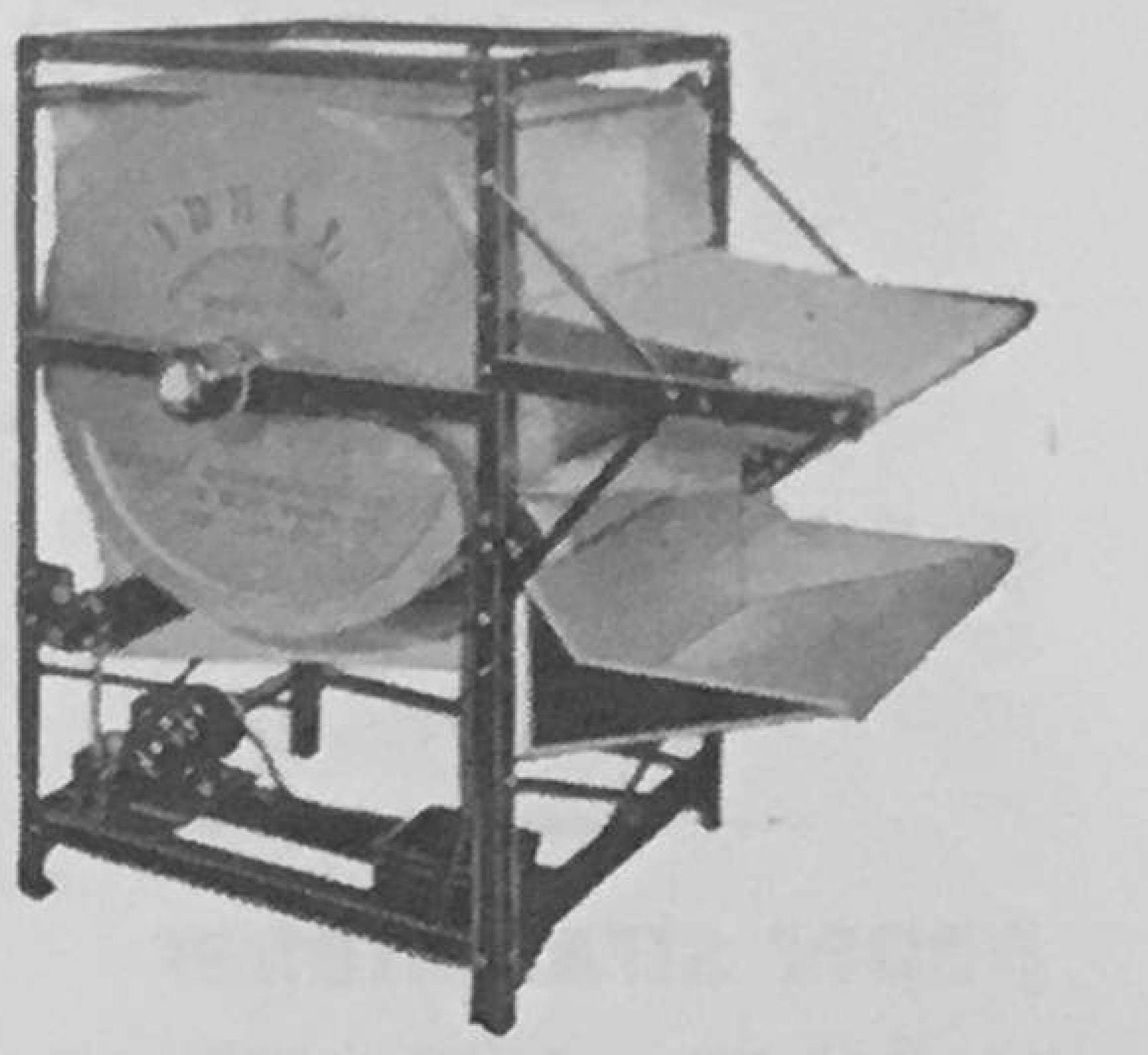
PAKONOMY ELECTRIC HEAT DRYER MODEL 26M, same at Model 26 except seamless Superdrum is unpolished. For matte and photocopy material drying only. Approximate output 300 photocopies 8x10 or 150 D.W. matte prints per hour, **$575**

PAKONOMY ELECTRIC HEAT DRYER MODEL 26W features water heated 26″ seamless chrome plated stainless steel Superdrum for even heat and high output. Ideal for glossy color print drying or for B/W glossy or matte prints up to 24″ wide. Levelling screws on each leg. Apron speed adjustable 12 to 40″ per minute. Approximate output 450 S.W. glossy or 300 D.W. matte or 325 color glossy 8x10 prints per hour. Includes electric water heater and circulating pump. 36″ wide, 57″ long, 69″ high. **$1,895;** w/Glossy Strip Drying accessory, **$2,025;** w/Matte Strip Drying accessory, **$2,090. PAKONOMY GAS HEAT DRYER MODEL 26GW** identical with Model 26W except water is heated by gas. Gas heater not supplied. **$1,650;** w/Glossy Strip Drying accessory, **$1,790;** w/Matte Strip Drying accessory, **$1,850**

PAKONOMY ELECTRIC HEAT DRYER MODEL 44 is equipped with 44″ unpolished seamless Superdrum. For high production of matte prints and photocopy work. Handles material up to 42″ wide. Approximate output, 480 photocopies 8x10 or 290 D.W. matte prints 8x10 per hour. Levelling screws on each leg. Apron speed adjustable from 6 to 20″ per minute. 54½″ wide, 57″ long, 69″ high. **$790**

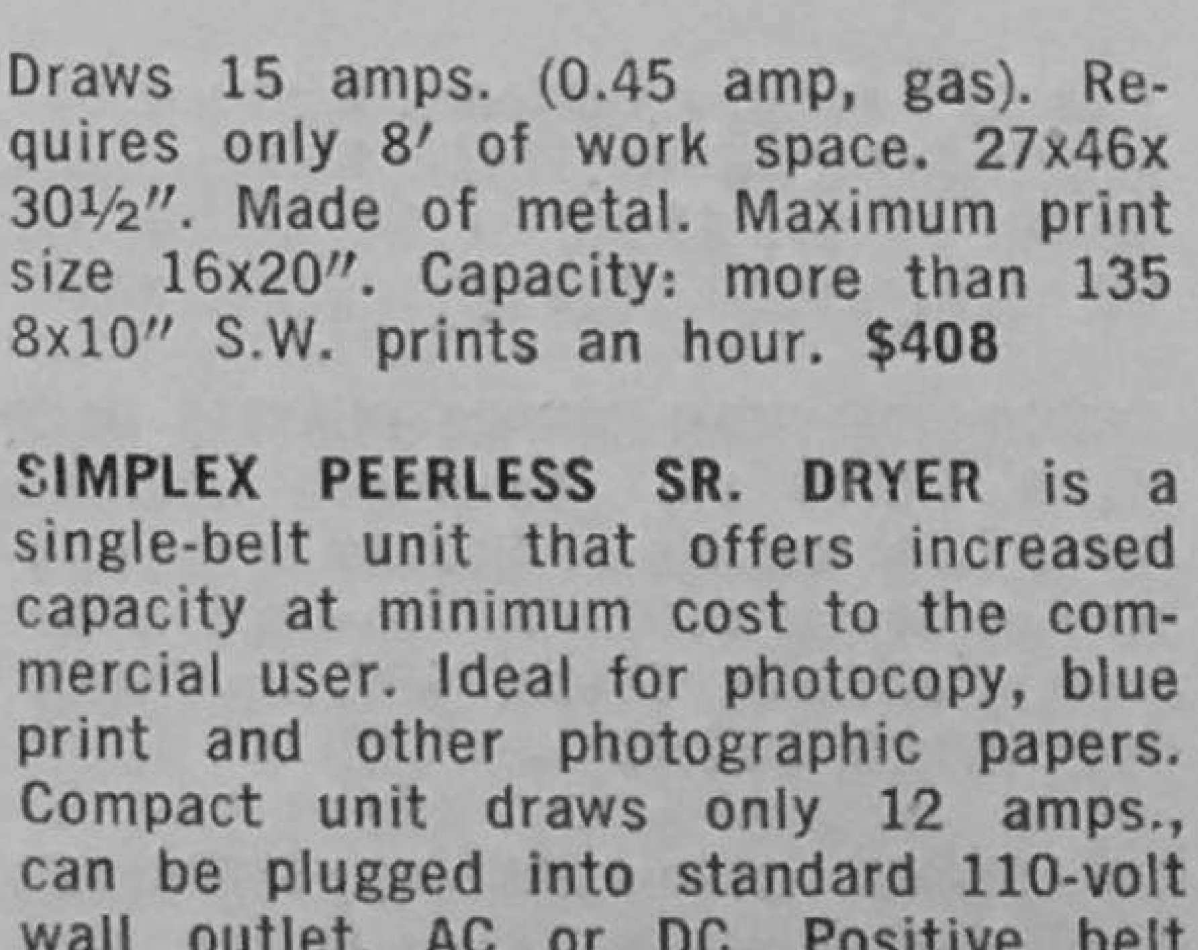
PAKOMATTE DRYER handles 270 8x10″ double weight matte prints per hour, needs less than 10 sq. ft. of floor space. Eliminates pre-blotting by passing prints between triple blotting rollers; assures automatic flattening and straightening because metal-enclosed vertical heating chamber allows prints to travel in long curves with slight backward curl. Enclosed design provides protection against soiling of aprons. Fractional h.p. motor; 115/230V or 120/208V, AC, 3-wire single phase, ground neutral (easily changed to 230V-AC, 2-wire single phase); or 120/240V-DC 3-wire, ground neutral. 14 amps. Consumption: 3.2 kw/hr. 26″ drum; 10-minute drying time. 175° for double weight; 160° for single weight. **$1,050**

SIMPLEX PRINT DRYERS feature non-slip belts, held in position automatically by patented controls. Prints are carried between two belts, never touching hot metal. **PEERLESS JR.** rotary all-electric print dryer has a 14″ belt, uses 110 volts AC or 115 volts DC. Capacity per hour 100 photostats 8½x11″ or 80 prints 11x14″, single or double weight. Dimensions: 25″ high, 23″ wide, 29″ deep. **$187.50**



IDEAL print dryer has capacity of 2-ft of drying surface per minute. Gas model travels 4-ft per mintue. 48½″ high, 47½″ deep, width determined by size of belt. Belt sizes 20″ to 60″ available. With or without thermostatic controls. Priced from **$342. SIMPLEX** glossy table model dryer is available in one-plate (**$180**) or two plate (**$240**) models. Two-plate machines have minimum capacities of 120 prints 8x10″ per hr. **SIMPLEX** double drum dryers are electric and gas heated, designed for double weight prints in large volume. Belts range from 40″ to 60″, prices from **$740** to **$985**

SIMPLEX HI-GLOSS ROTARY DRYER is table model designed to meet the most exacting requirements. Unexcelled drying capacity, variable speed, positive chain drive, thermostatic heat control. Highly polished chrome seamless drum delivers top-quality prints in a variety of sizes. Peak load efficiently handled by 1,550 square inches of drying surface. Plugs into any standard outlet. AC single phase, 110 volts.



Draws 15 amps. (0.45 amp, gas). Requires only 8′ of work space. 27x46x 30½″. Made of metal. Maximum print size 16x20″. Capacity: more than 135 8x10″ S.W. prints an hour. **$408**

SIMPLEX PEERLESS SR. DRYER is a single-belt unit that offers increased capacity at minimum cost to the commercial user. Ideal for photocopy, blue print and other photographic papers. Compact unit draws only 12 amps., can be plugged into standard 110-volt wall outlet. AC or DC. Positive belt alignment prevents slipping or creeping. Thermostatic heat control. Average capacity with 20″-wide belt: 130 8½x 11″ prints an hour. Maximum print size: 18x24. Metal, 28x31x25″. **$248.50**

SIMPLEX SUPERGLOSS DRYER has more than 2,400 sq. inches of chromium plated drying surface, is particularly suitable for the busy photofinishing laboratory. Positive chain drive pre-

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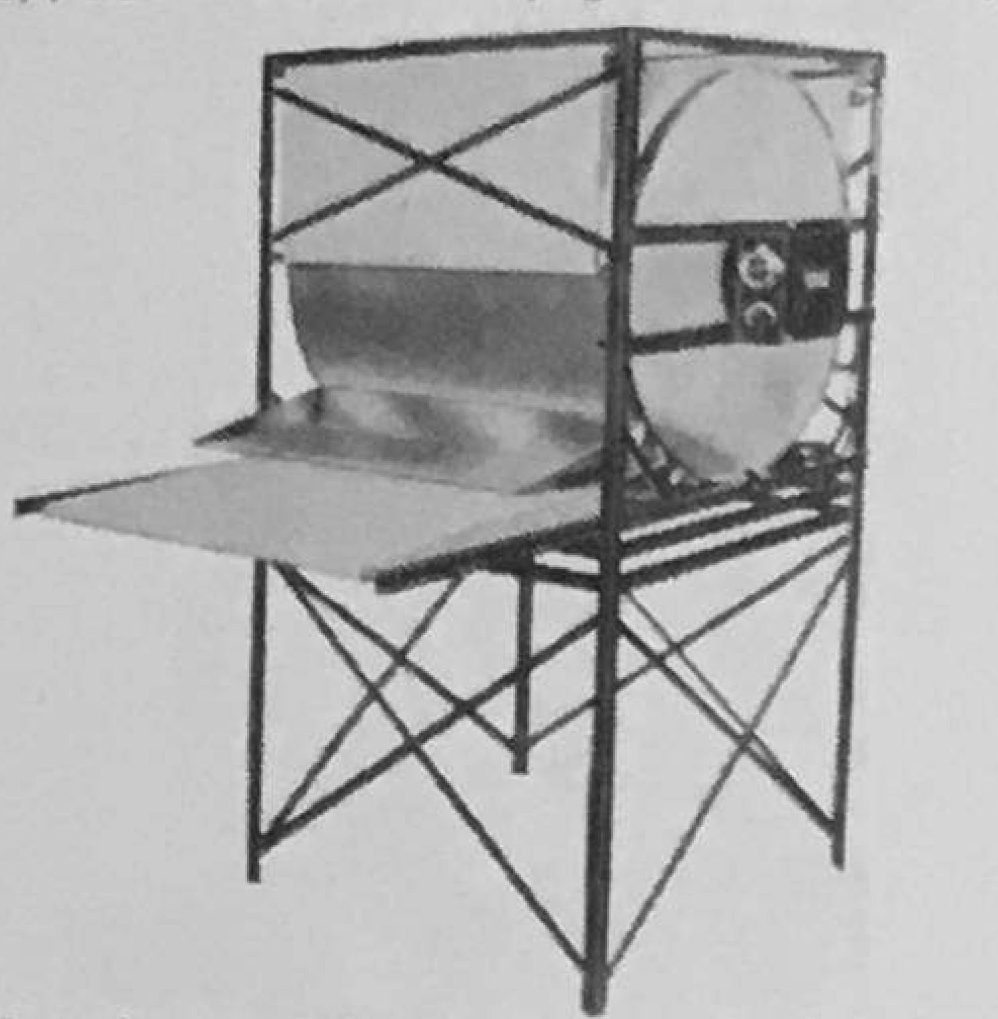
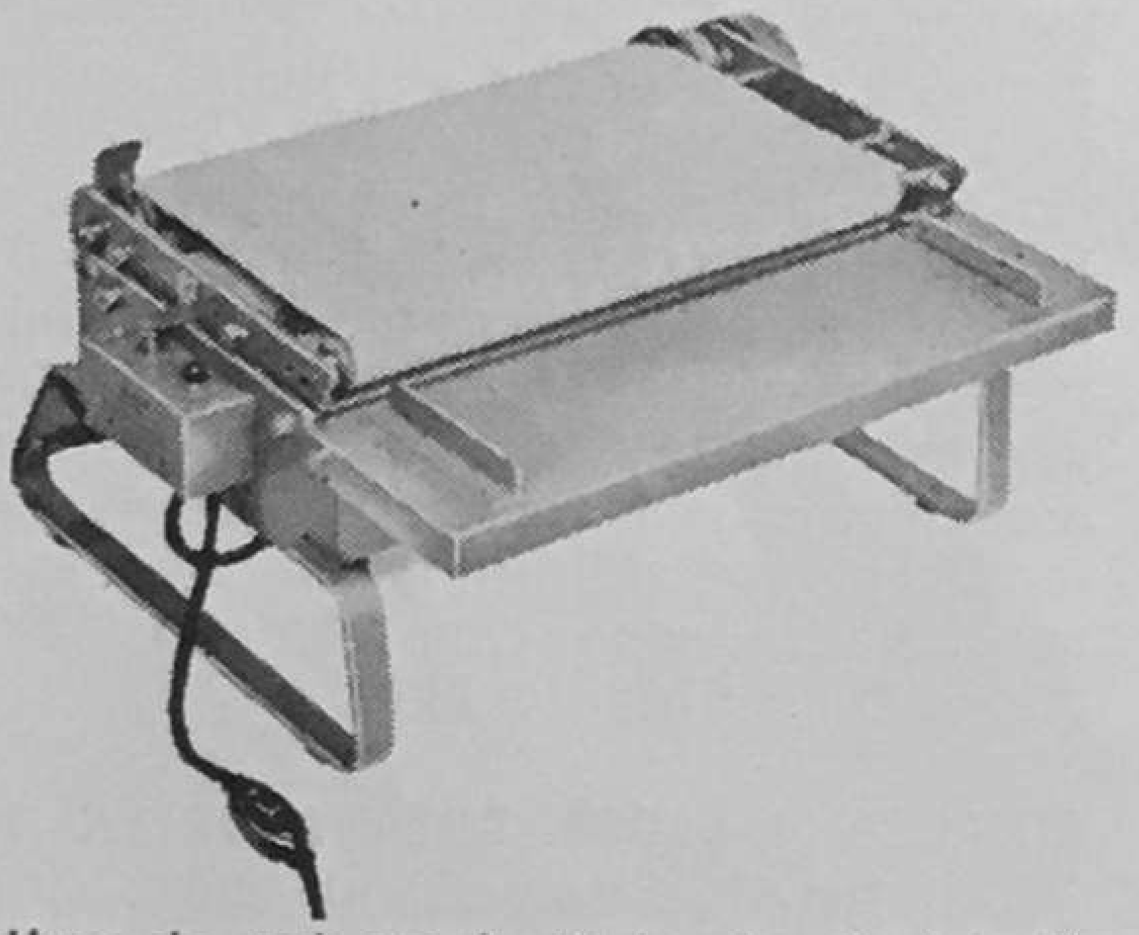
vents slipping. Simple drum speed adjustment and thermostatic heat control insure consistent quality. 33x52x63″; 115//230 V-AC-3 wire, ground neutral, single phase; 15 amps. on electricity, 0.45 with gas. All print sizes up to 26″ wide. Capacity: 350 8x10″ single-weight prints an hour. **$555**



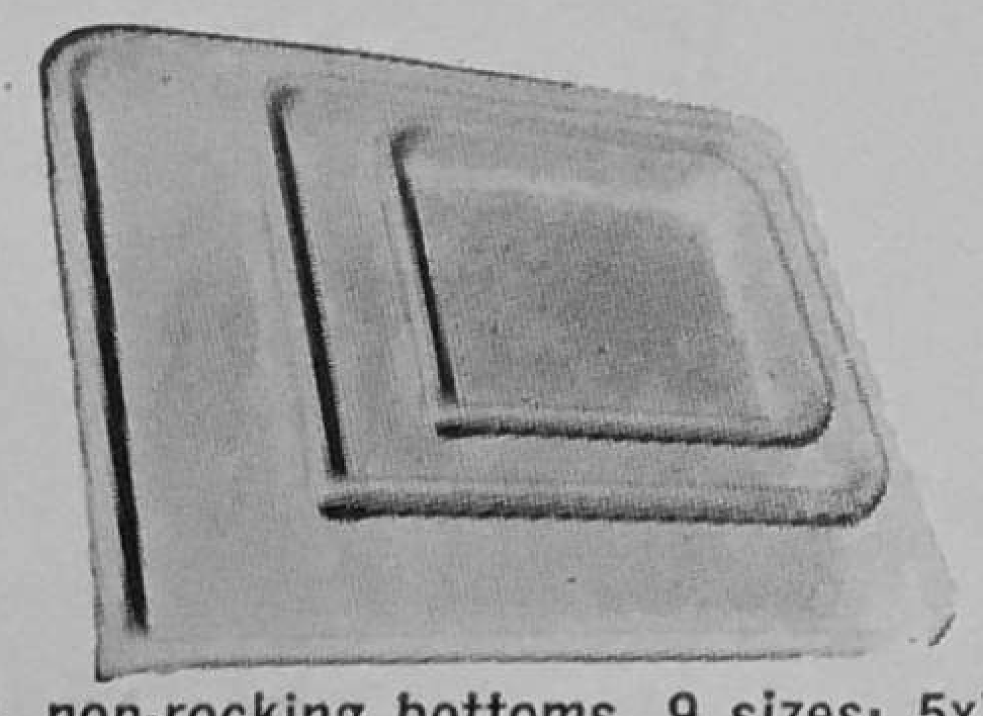
paper straightener

KODAK PRINT STRAIGHTENER, Model F, NO. 1206
for single and double-weight prints up to 14 inches in width. Both front and back of prints are moistened so that they do not crack. Water is electrically heated. Straightener belt is motor driven. Specify current and voltage; AC or DC model available. **$495**



trays

CESCO-LITE TRAYS are high-impact plastic—guaranteed unbreakable! Clean, smooth, white; can't break, split, chip, shatter or rust. Fully seamless. Easy to clean: trouble-free to use and store; flat, non-rocking bottoms. 9 sizes: 5x7, **$1.35;** 8x10, **$2.35;** 10x12, **$3.60;** 11x14, **$4.50;** 14x17, **$7.25;** 16x20, **$9.20;** 18x 22, **$13;** 20x24, **$15.50;** 23x28, **$20**



CESCO-LITE HIGH-IMPACT PLASTIC DEEP HYPO TRAYS are guaranteed unbreakable, fully seamless. Stands 58% solution of acetic acid. Easy to keep clean. 11x14, **$11.90;** 16x20, **$22.10;** 20x24, **$28;** 22x28, **$34.40**

COLUMBIAN 316 ANALYSIS STAINLESS STEEL TRAYS will not corrode, pit, shatter or rust. Fully seamless; flat bottoms up to 14x17; larger sizes have ribbed bottoms. All trays oversize to provide ample working room. 8x10, **$10.40;** 11x14, **$19.15;** 14x17, **$31.30;** 16x20, **$41.40;** 20x24, **$61.90**

ACE HARD RUBBER TRAYS are practically indestructible, non-porous, noncorrosive, chip-proof. Specially reinforced rims and bottoms insure great strength. Easily cleaned. May be used interchangeably for all photographic processes without danger to prints or negatives. 4x6 **77¢;** 5x7 **$1.30;** 8x10 **$2.15;** 11x14 **$4.50;** 14x17 **$8.35;** 18x 22 **$15.05;** 20x24 **$18.95**

KODAK RUBBER DEEP TRAYS are made of first quality hard rubber, impervious to all acid and alkaline solutions. Convenient pouring lip. 16x20x6″, **$19;** 20x24x6″, **$26.50**

LEEDAL STAINLESS STEEL TRAYS are made to last a lifetime. Of Heli-Arc Welded Type 316 stainless steel construction. Developing trays come in 6 sizes from 12x15x3″ to 31x41x3″, **$21.50** to **$89.70.** Fixing and general hypo trays, from 12x15x5″ to 31x41x5″, **$27.50** to **$108.** Floating lids are available for all trays, from **$13.75** to **$39**

water filters

CUNO AQUA-PURE WATER FILTER assures clean wash water for film and prints. Print staining and spotting contaminents can be eliminated with Aqua-Pure. Replaceable white cellulose cartridges give 100% filtration of micronic particles down to 5 microns (.00018″), **$29.95;** cartridges, ea., **$2.50;** case of 24, **$49.44**

FISHER MICROFILTER assures dependable continuous supply of clean, filtered water. Uses permanent metallic filter element (sintered powdered metal principle) that is cleaned almost instantly by means of "twist-of-the-wrist" back-flush, without stopping or interfering with production. Easy to install, uses standard ½″ plumbing connections. 10 gal./min.; two or more can be used in parallel where larger quantities of water are needed, two units, 20 gal./min. etc. To remove odors and taste from water, simply use activated carbon in core cylinder. Hot water will not damage filter. **$48**

FULFLO FILTERS provide micronic filtration for all photo processing fluids: water, developers, acids, bleaches, hypo, compressed air. All Fulflo Filters feature Honeycomb Filter Tubes for depth filtration. Porous Ceramic Tube, a reusable, corrosive-resistant, high temperature ceramic filter element is aslo available in the same range as Honeycomb Filter Tubes. Fulflo Corrosion Resistant Metal filters, pipe size ⅜ to 2″, from **$27** to **$298.** 316 Stainless Steel, **$44.50** to **$525.** For compressed Air, **$14.09** to **$17.98.** Replacement Honeycomb Filter Tubes, lots of 6, **$1.55** & **$1.70;** lots of 12, **$1.30** & **$1.45;** lots of 30, **$1.10** & **$1.25**

MANSFIELD AQUA-MITE WATER FILTER provides sparkling, crystal-clear water direct from any faucet. Removes unwanted sediments that cause scratches and pin-holed negatives and prints. Easily and quickly attached. Self cleaning . . . just reverse and flush. Nothing to replace. Lasts indefinitely. Scientifically engineered and built to rigid specifications. Approved by leading Medical Journals. With standard adapter **$9.95;** connections, per set **$1.50**

SETHCO FULFLO FILTERS have Honeycomb filter tubes available in wide range of densities for maximum filtration efficiency. All models are nickel-plated solid brass. **BR** types have single tubes, ⅜″ NPT pipe size, **BR-4;** 2 GPM, **$16.90; BR-8;** 4 GPM, **$24.40; BR-10;** 5 GPM, **$27. BRM** types have two or three 10″ filter tubes, ¾″ NPT pipe size, **BRM 2-10-¾;** 2 tubes, 10 GPM, **$76.25; BR, 3-10-¾;** 3 tubes, 15 GPM, **$101.25. WYBR** types are multi-tubed units having 3 to 18 tubes; inlet & outlet pipes of 1½ or 2″ NPT and capacities of 15 to 90 GPM, 7 sizes, **$142** to **$298**

DARKROOM EQUIPMENT

apron & gloves

KODAK COTTON GLOVES—Lightweight and lintless, for handling negatives. Per ten pair, **$2.90**

KODAK DARKROOM APRONS—Of tough, moistureproof Vinylite with drip cuff for added protection to clothes and shoes. Medium size, 30x35″, **$3.50;** Large size, 36x45″, **$4.50**

MELROSE RUBBER APRONS are bib-type, made of black stain-resistant, washable rubberized sheeting. Neatly tailored, full cut, 36x42″. With neck-band and tie-straps. Each **$4.75**

RUBBER GLOVES available in industrial rubber, neoprene, Hycar or plastic. In half sizes from 7 to 11; **RUBBER:** per doz. pr., 11″ long, **$6.93** to **$19.60;** 14″, size 9 to 11, **$20.35** to **$44.10;** 18″, 9½ to 11, **$54.54** & **$69.63. NEOPRENE:** 11″, 7 to 11, **$8.14** to **$12.65;** 14″, 9 to 11, **$33.07** & **$37.24;** 18″, 10 & 11, **$62.38. HYCAR:** 10½″, 10 & 11, **$19.80;** 14″, 10 & 11, **$42.25. PVC PLASTIC:** 11″, 8 to 11 no ½ sizes, **$13**

blotters

ALBEMARLE BLOTTING PAPER is fine grade paper available in stock sizes 19x24″, 24x38″, 20x34″, 20x36″, in variety of colors and finishes. Carton, **$19.65-$30.15**

KODAK BLOTTING PAPER is highly absorbent and chemically pure. In sheets 19x24″. Pkg. of 10 sheets **$2.95;** 125 sheets **$24.50. KODAK BLOTTER ROLL** dries semi-matte or matte-surfaced prints. Fine white blotter stock, cloth lined, with corrugated backing. Prints are placed face down on cloth lining; air pockets in corrugated backing allow circulation for complete drying, counteracts tendency of prints to curl. Six feet long, 11½″ wide; capacity 80 average size prints. **$3.95**

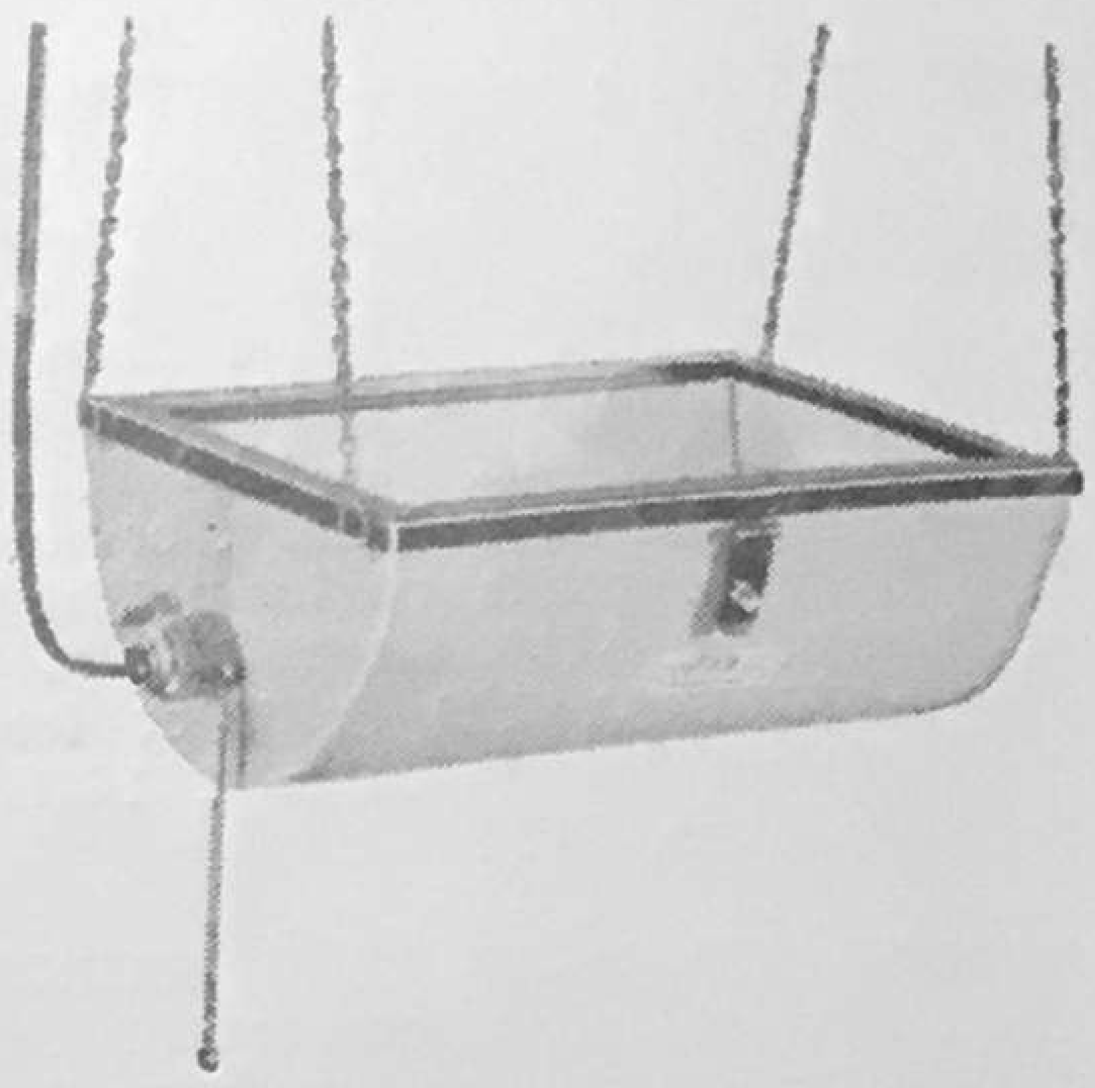
chemical balances

OHAUS TRIPLE-BEAM BALANCES have stainless steel plates and beams, resistant to corrosion. High capacity, fine sensitivity. Weights are hung on one or both of two suspension pivots located at end of beam. Beam calibrations: front, 10x0.1 grams; rear 100x10 grams; center 500x100 grams. Total capacity, 2610 grams. Model 750S with metric scale, less weights, **$20.50;** 500-gram weights, each **$1.50;** 1000-gram weights **$1.50.** Model 710, has removable pan, **$22.50;** 720, with removable brass scoop, **$29;** 760 has stainless steel plate, undivided tare beam, makes possible direct reading of net-weight values of materials weighed in containers, **$24.50**

PELOUZE R-47 DARKROOM LABORATORY SCALE. Sensitizer insures hairline accuracy, quick adjustment. Has single sliding poise, knife-edge pivots; dual reading dial (avoirdupois and metric). Removable aluminum pans. Acid--resistant finish. Six individually tested brass weights in avoirdupois (2 50-grain, one each ¼, ½, 1 and 2 oz.) or metric (2 10-gram and one each 2, 5, 20 and 50 grams), **$11.75.** 6 extra weights, **$2**

darkroom lamps & equipment

KODAK UTILITY SAFELIGHT LAMP, holds 10x12″ filter, is designed to be suspended from ceiling for either direct or indirect illumination. Chains, cord and switch are provided. Accepts 25-watt lamp. Without filter, **$17.50.** Accessory Bracket permits lamp to be mounted on wall, table or shelf; lamp may be turned at any angle. **$3.95**



KODAK ADJUSTABLE SAFELIGHT has double-swiveled shank and bracket, can be attached to wall, shelf or bench. Uses 15-watt lamp. With switch and cord. Less lamp and filter **$11.50;** 5½″ diam. filter, **$3**

KODAK DARKROOM LAMP can be used in a wall socket or from a drop cord. Accepts 5½″ diameter Kodak Safelight Filter, 15-watt bulb (not supplied). Less lamp and filter **$5.50;** filter **$3**

KODAK 2-WAY SAFELAMP may be used in either wall or ceiling socket. Swivels to provide direct or indirect illumination. Supplied with OA filter. When light in two directions is desired, removable metal panel may be replaced with appropriate filter. With 15-watt bulb **$7.95;** without filter **$6.15**

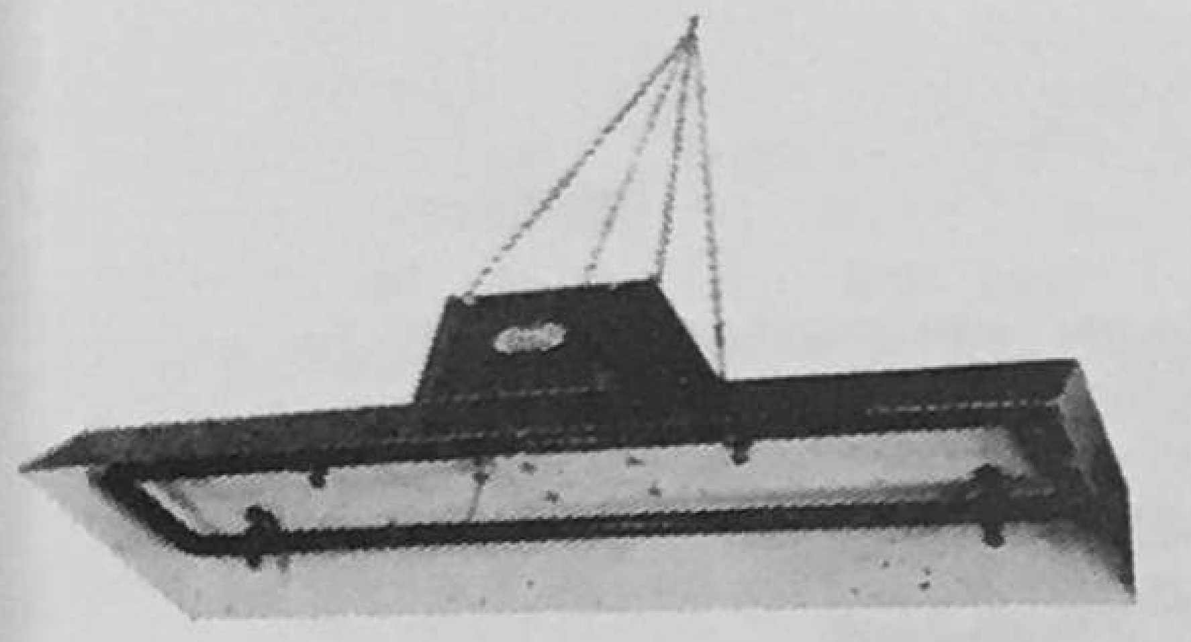
KODAK SAFELIGHT FILTERS are scientifically designed for safelight lamps. Provide maximum safe illumination plus protection from white light when using sensitized materials. Wratten Series OA (greenish yellow)—for contact and enlarging paper. Wratten Series OC (light amber) for high-speed enlarging papers. Series 1 (red) for blue-sensitive films and plates only, such as Lantern Slide Plates and Kodak Commercial Film. Also for Kodagraph Enlarging papers. Series 1A (light red) for Kodalith materials and Kodagraph Contact Papers. Series 2 (dark red) for orthochromatic films and plates. Series 3 (green) for panchromatic films and plates. Series 7 (light green) for infra-red sensitive films and Ektacolor print film. (Not available in 2-9/16″ diam). Prices any series except 7: 2-9/16″ diam., **$2;**

DARKROOM LAMPS

A.S.A. Code	Type No.	Watts	Description	Life-Hours	Maximum Overall Length	Price Each
BMS		7½	Red	1400	2¼	$ .55
BPD	10S14/NDA	10	Amber	1000	3½	1.85
BPG	10S14/NDR	10	Ruby	1000	3½	1.85
BAJ	25A/NDA	25	Amber	1500	3$\frac{15}{16}$	1.85
BAS	25A/NDR	25	Ruby	1500	3$\frac{15}{16}$	1.85
BCJ		60	Ruby	1000	4$\frac{15}{16}$	2.20

3¼x4¾", **$2**; 5½" diam., **$3**; 5x7" **$3.50**; 8x10" **$5**; 10x12" **$6.25.** Series 7 only: 3¼x4¾" **$3.20**; 5½" diam. **$4.85**; 5x7" **$6.25**; 8x10" **$11.25**; 10x 12" **$15.60**

ARISTO COLD LIGHT SAFELIGHTS are especially designed for graphic arts and industrial photography use. Prevent eye strain, waste and improve efficiency. Illuminate brightly, evenly and safely even the largest rooms. Filters built right into lamps and unaffected by temperature and moisture changes. Never have to be replaced. Long-life cold light lamps are housed in sturdy, attractive gray wrinkle reflectors designed for ceiling suspension. Come with brass chain and can be installed by anyone in a few minutes. Small safelights, 5½x18", gross weight 7½ lbs., consume 16 watts. Red (C-RS18) and yellow (C-YS18) **$38.** Combination (C-RYS18) **$49.50.** Large safelights, 8½x26", gross weight 10½ lbs., consume 24 watts. Red (C-RS26) and yellow (C-YS26) **$58.** Combination (C-RYS26) **$74.50.** Special safelights for du Pont Photowrit and variable contrast enlarging papers, special sizes and colors available.



BROWNIE DARKROOM LAMP KIT Model B, made of molded Tenite, has 7 watt bulb, yellow cup and green cup. Screws directly into lamp socket. **$1.95**

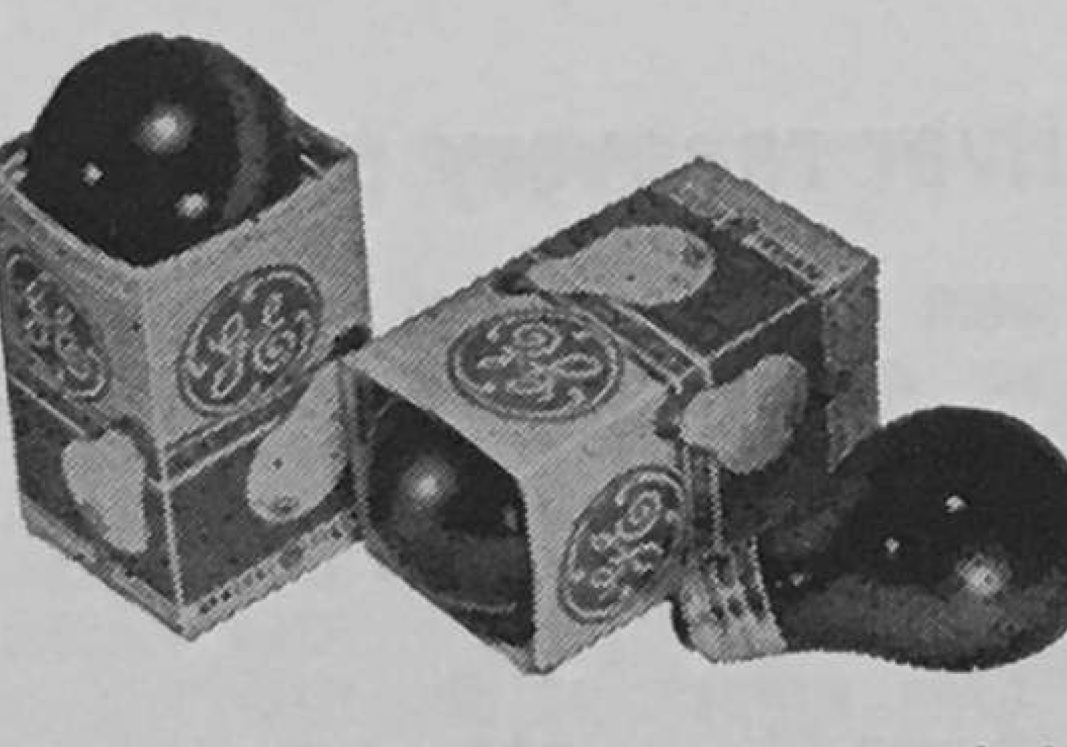
BRUMBERGER SAFELIGHTS. 5x7" are made of steel. Pivots to any angle, holds fast at any point. Hinged door permits interchange of 5x7" filters. Sturdy base for table top use or mounting to wall on ceiling. #1860 safelight (including switch, 6 ft. cord, amber filter) **$6.95.** Red, green, amber, clear, white or opal glass filter, each **$1.49**

DU PONT S-55X SAFELIGHT is a universal darkroom "safelight" for all sensitized papers. Combines maximum safety from light fog with maximum eye comfort. Prints viewed during processing show quality comparable to those under white-light inspection. 2-9/16" circle or 3¼x4¾", **$2**; 5½" circle, **$3**; 5x7", **$3.50**; 8x10", **$5**; 10x12", **$6.25**

NUARC DARKROOM SAFELIGHTS are available in various models. **STANDARD TYPE:** has fixed-position glass frame with hangers for fastening to any wall. Sturdy steel, finished in silver hammerloid enamel. **MODEL DL-19R**; ruby light only, 16x18x8", **$29.50. MODEL DL-19**; four each, 25W ruby & 25W white bulbs, 22x19x8", **$45. MODEL DL-36**; has 3-25W ruby cold cathode and 4-25W white fluorescent tubes, **$115. MODEL DL-34** is 9x34" for wall mounting, ruby light only, **$24.95; MODEL DL-10** has 4-6' chains to hang this 10x12" unit from ceiling, ruby light only, **$14.95. MODEL DL-6B** is sturdy 5½" dia. safelight w/adjustable base bracket for wall or table, ruby only, **$9.95**; DL-6 same as DL-6B less bracket, cord & bulb, **$5.95**

NUARC ETCHING DARKROOM SAFELIGHTS are designed for etching use as well as inspecting negatives and positives. Glass front can be extended up to 5" from bottom. White Plexiglass side shields prevent light leakage. Steel trough at bottom prevents work sliding off. Glass frame and trough are neoprene coated for complete chemical resistance. Can be readily converted to inexpensive dot etch table by adding water flow system. Can also be equipped with overhead rails for positioning mobility. **MODEL DL-19E**: 22x 19x8". 4-25W ruby and 4-25W white bulbs, **$103. MODEL DL-30E**: 25x30x12", has 3-35W ruby cold cathode and 4-20W white fluorescent tubes, **$173. MODEL DL-30EG**: 25x30x12", has 3-25W ruby cold cathode, 4-20W white fluorescent and 3-25W green cold cathode tubes, **$210. WATER FLOW SYSTEM** for above, specify model, w/foot control, **$48.75.** OVERHEAD RAILS, **$85**

G-E DARKROOM LAMPS provide correctly-filtered light. 10 and 25-watt ruby lamps for blue-sensitive or ortho films; 40 and 60-watt ruby lamps for photo-process films; amber lamps for enlarging or contact printing. See chart above.

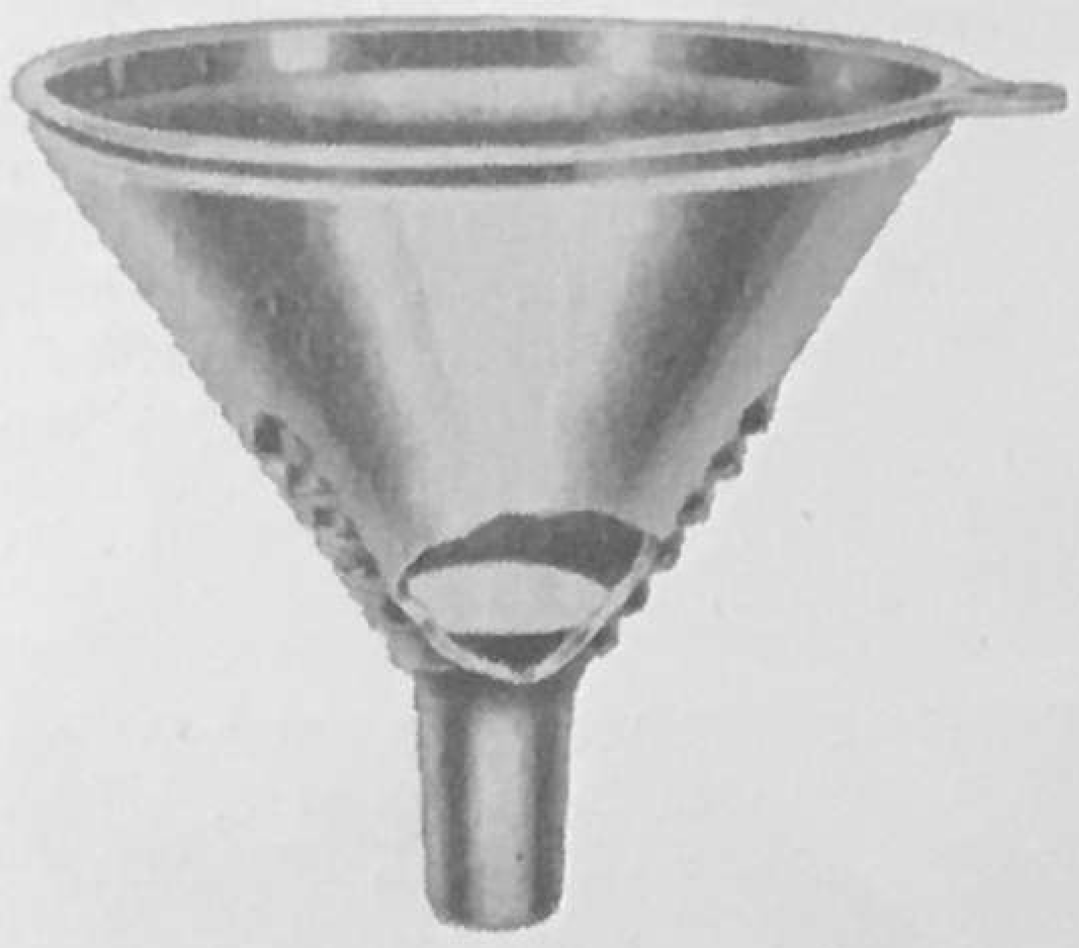


SYLVANIA DARK ROOM LAMPS with the color right in the glass! No paint or ceramic coating to leak light or scratch! The natural colored glass provides absolutely safe, perfectly filtered light at all times, under all conditions, for greatest possible darkroom efficiency! Available in dark ruby or amber. 105-125 volts. For prices, see chart.

SYLVANIA
LIGHT BULBS
Built Light in Sight
FOR THE FINEST IN
STORE AND WINDOW LIGHTING...
ASK FOR SYLVANIA
BIRDSEYE REFLECTOR LAMPS
SYLVANIA ELECTRIC PRODUCTS

laboratory ware

FILTR-FUNLS are professional quality filtering funnels for filtering all photographic solutions as well as nearly all other liquids; such as acids, alkalis and solvents. For photographic and general use; filters as it pours. Polyethylene with stainless steel anti-bubble filter molded into the walls of the funnel to prevent loss or removal. Rids solutions of sludge, lint, dirt and other contaminates. 8-oz. size, **$1.40**; one quart, **$2.65**; two quart, **$3.50**



BEL-ART POLYETHYLENE LABORATORY WARE is unbreakable, non-toxic, odorless, shockproof, lightweight, unaffected by chemicals. Has no known solvent at room temperatures. (Should not be exposed to continuous service above 175°F.) Bottles, also usable as Squeeze and Spray bottles (various types of closures and outlets available: Wash Bottles, Dropper Bottles, Aspirator Bottles. Indicator Bottles, etc,) #616 with screw caps, 1 oz. to 2 gal., **12¢** to **$7.25**; 5 gal. to 13 gal. carboys, **$12** to **$25**; pouring spouts, siphons faucets extra. Widemouth bottles, 5cc to 1 gallon, **15¢** to **$4.50**; Jugs with handle, 1 gal., **$5**, 5 gal., **$13**; Trays, **$2** and up. Tanks, 5 gal. to 55 gal., **$8** and up . Also available with lids, floating lids, faucets, pumps; tanks and trays made to order. Pails for storing of mixing chemicals, 11 qt. to 17 qt., **$2** and up. Funnels, 1" to 11", **70¢** to **$8.50.** Stirring Rods, 20", **50¢.** Stirring Paddle, 36" with 6' paddle, **$7.50.** Scoops, large, **$1.50.** Poly-Hand Pump made completely of Polyethylene, attachable to drums, carboys, several sizes from **$15.** Vinyl Dark Room Apron, **$1.20.** Pitchers, 2 pint to 1 gal., from **$5.10** Spigots and faucets from **80¢**

KODAK COMBINATION FUNNEL is made of two polyethylene plastic sections which can be used individually or in combination providing, in effect, three sizes of funnels. Large section is 5" diameter with 2" spout; small section has spout ½". Friction joined. **95¢**

CLAYTON AMBER POLYETHYLENE BOTTLES are designed to protect light-sensitive chemicals from damage, "squeezable" to eliminate air and stop oxidation, unbreakable. Come in 5 sizes: 8-oz., **49¢**; 16-oz., **65¢**; qt., **85¢**; gallon, **$2.20**; 5 gallon, **$8.15**

COLUMBIAN PORCELAIN ENAMEL GRADUATES are seamless throughout, have convenient pouring lip. Graduations marked in ounces on inside, permanently fired into porcelain. 32-oz size, **$2.25**; 64-oz, **$3.10**

COLUMBIAN ENAMEL MIXING PAIL is heavy-coated with acid-resisting white porcelain. Seamless edging shape; heavy bail-type handle; comfortable grip. Holds 11½ quarts. **$2**

KODAK DARKROOM GRADUATES have large black figure index marks. 8-oz **80¢**; 16-oz **$1.10**; 32-oz **$1.95**

KODAK STIRRING PADDLE has flared handle; can be used to crush small chemical particles. 10" long, made of strong plastic: **35¢**

GRAFIC STAINLESS STEEL BUCKETS cannot rust, chip or crack. Easy to keep clean. Reinforced construction; soldered and welded seams, stainless wire; tight, sound joints. 10 qts **$19.97.** 12 qts **$21.18.** 14 qts **$22.39.** 16 qts **$25.41.** 18 qts **$26.62.** 20 qts **$28.44**

GRAFIC STAINLESS STEEL GALLON MEASURE ECONOMY MODEL 80-EM—cannot rust, chip or crack. Easy to keep clean. Reinforced construction; soldered and welded seams; stainless wire; tight, sound joints, **$10.89**

GRAFIC STAINLESS STEEL GRADUATED MEASURE AND BEAKER has raised stainless steel letters for legible reading. Graduated in ounces and cubic centimeters. Capacity, 8 oz (250cc) **$7.26**; 16 oz (500cc) **$7.50**; 24 oz (750cc) **$7.74**: 32 oz (1,000cc) **$7.99**; 64 oz. **$12**

LEEDALL STAINLESS STEEL GRADUATED MEASURE has legible inside graduations that measure both ounces and cubic centimeters. Rounded corners permit easy cleaning. Has handle and pouring lip. Will not corrode, chip or crack. 32 oz. (1000 c.c.), **$8.50**

LEEDALL STAINLESS STEEL FUNNELS have rounded corners for easy cleaning. Will not crack, corrode or chip. Pt., **$7.50**; qt., **$8.50**; 2 qt., **$12.50**

LEEDALL STAINLESS STEEL UTILITY BEAKER is made of deep drawn steel with rounded corners that permit easy cleaning. Ideal for mixing, storing or transferring small amounts of solutions. With handle and pouring lip, gal., **$10.90**

LEEDALL STAINLESS STEEL SOLUTION PITCHER has handle and hinged cover to keep dirt and dust out of solutions. Lid may be opened with one hand while holding pitcher. Deep drawn with rounded corners for easy cleaning. No chipping, corroding or cracking. Qt., **$11.50**; 2 qt., **$14.80**

LEEDALL STAINLESS STEEL PAILS are deep drawn with rounded corners. Easy to clean; won't chip, corrode or crack. 3 gal., **$16.90**; w/lip, **$23.90**; 4 gal., **$19.80**; w/lip, **$26.80**; 5 gal., **$28.20**; w/lip, **$35.90**

LEEDALL STAINLESS STEEL PITCHER has curved sides, pouring lip and handle; deep drawn with rounded corners, permits easy cleaning. Won't chip, crack or corrode. Transfers solutions easily. Gal., **$21.90**

LEEDALL STAINLESS STEEL SCOOP will not chip, crack or corrode. Ideal for handling powder as it has round corners. Bowl dia., 5¼", 8" long, 4" handle, **$11.50**

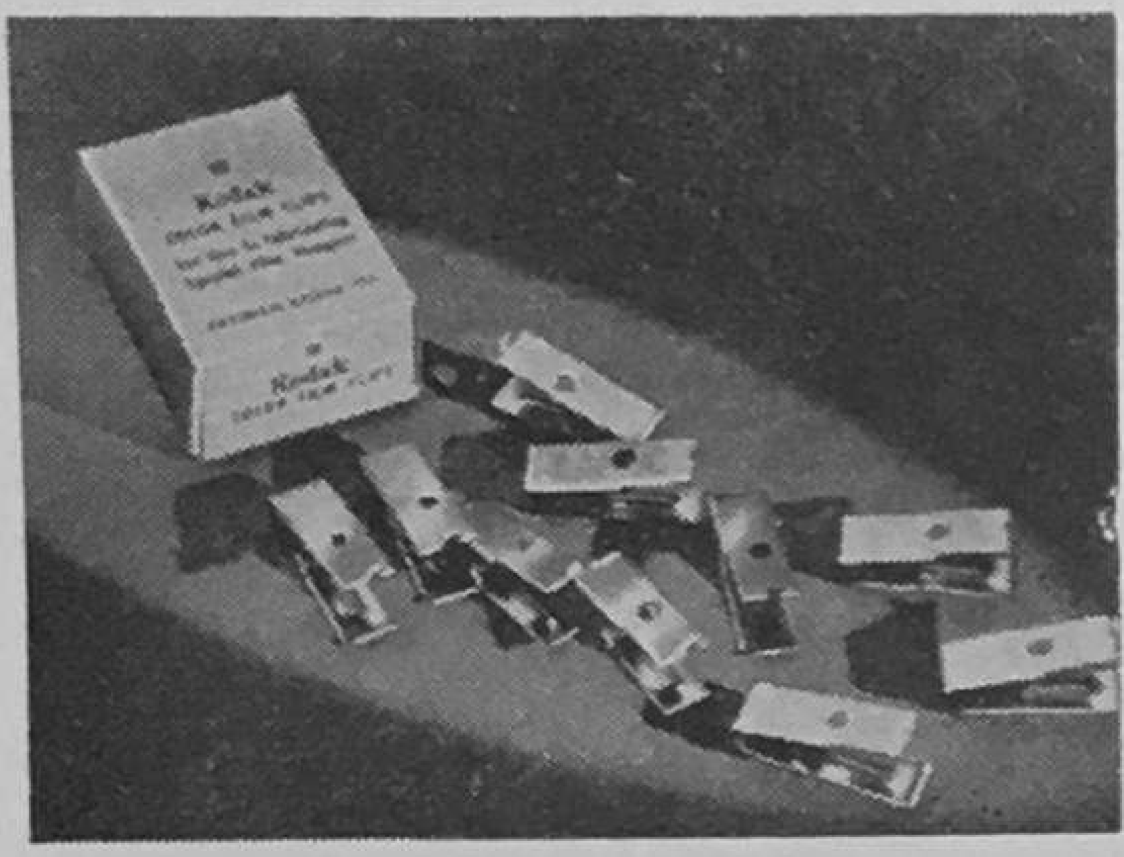
U. S. STONEWARE ACID PITCHERS are guranteed acid proof. The glazed finish will not chip, crack, craze, peel or contaminate. Pitchers are of strong, rugged construction, and have long pouring lips and well fitted handles. Made in sizes from one quart up. Pt. size, **$1.75; qt., $2;** 2 qt., **$2.65;** gal., **$3.90;** 1½ gal., **$5.10;** 2 gal., **$5.50;** 3 gal., **$6.50;** 4 gal., **$7;** 5 gal, **$9**

VOLRATH GRADUATES are high quality porcelain enamel featuring a NO-DRIP spout. Measuring scale indelibly fired into porcelain. 16oz., **$1.75;** 32oz., **$2.30;** 64oz., **$2.80.** In S.S., 16oz., **$5.50;** 32oz., **$7.30;** 64oz., **$7.90.** Stain-Less Steel Funnels, 3oz., **$4.20;** 22oz., **$4.50;** 32oz., **$6.** In porcelain enamel, 3oz., **$1.10;** 8oz., **$1.30**

VOLRATH STAINLESS STEEL PAILS are of seamless construction, impervious to rust, corrosion or discoloration from photographic chemicals. 8qt., **$13.50;** 13qt., **$15.60;** 16qt., **$18.20.** In porcelain enamel, 12qt., **$3.50**

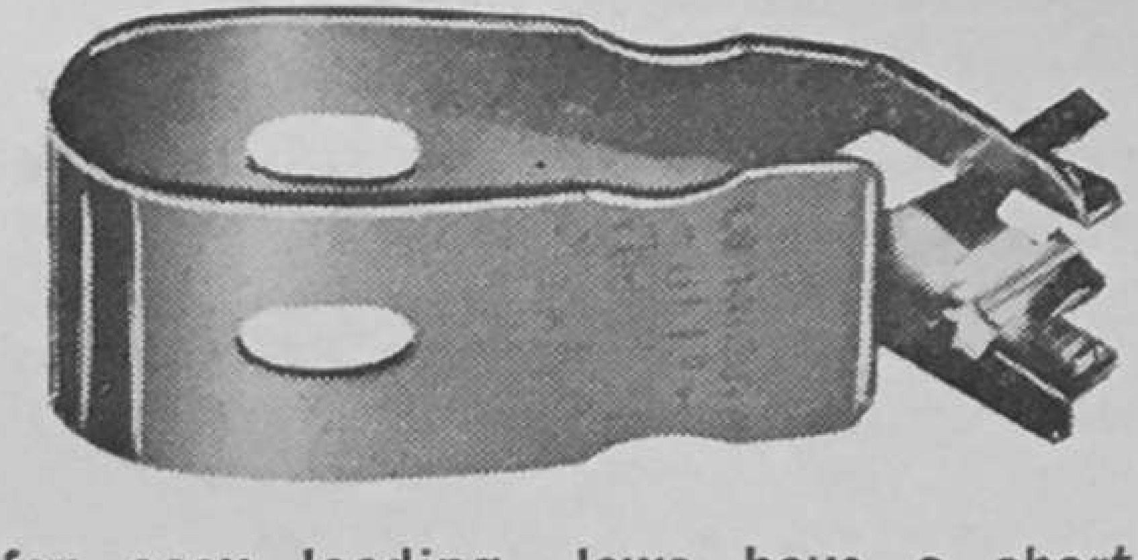
film clips

KODAK COLOR FILM CLIP. Designed for attachment to hanger frames in custom-built sheet film processing equipment.



Spring actuated jaws have teeth which grip film tightly without puncturing. Made of stainless steel. Pkg. of 10, **$2.49**

KODAK FLEXO FILM CLIP—Entirely new design. Made of corrosion-resistant stainless steel for easier use and longer life. Clip grips the film securely without perforating it and opens wide for easy loading. Jaws have a short bite which will not intrude on the picture area. The unique, rugged one-piece construction allows the clip to drain quickly for drying. Per clip, **40¢**



PAKOSNAPS film clips are ideal film processing accessories. Made of stainless steel w/4 tooth spring jaws, ea., **32¢;** weighted, ea., **48¢**

WOOD CLIPS are ideal for many darkroom uses. Made of white pine with powerful spring and convenient metal clip for hanging from line or cord, per doz., **50¢**

negative protectors & files

INGENTO KRAFT ENVELOPES of super-strength Kraft paper, gummed. 4⅛x6¼: 1000 **$9.** 4⅝x6¾″: 1000 **$11.05.** 5½x 8¼″: 1000 **$11.05.** 8½x10½″: 1000 **$17.30.** 11½x14½″: 1000 **$30**

NEGA-FILE DELUXE #228 SERIES holds 300 2¼x2¼″ or 2¼x1⅝″. #22-G-100 chest, 100 plain envelopes, index and guides, **$8.20.** #22-G-300 chest, 300 plain envelopes, index, guides, **$11.25.** #22-A-100 chest, 100 transparent sleeves, index, guides, **$11.05.** #22-A-300 chest, 300 transparent sleeves, index, guides, **$19.75.** #22-2 SERIES for filing strips of two 2¼x2¼″ negatives or prints. #22-2-G-100 chest, 100 envelopes, index, guides, **$8.25.** #22-2-G-600 chest, 600 envelopes, index, guides, **$14.95.** DELUXE #24 SERIES NEGA-FILES hold 900 2¼x2¼″ negatives. #24-G-100 chest, 100 printed glassine envelopes, index, guides, **$7.85;** #24-G-900 chest, 900 envelopes, index, guides, **$14.05.** #24-A-100 chest, 100 transparent sleeves, index, guides, **$9.95.** #24-A-900 chest, 900 sleeves, index, guides, **$32.55**

NEGA-FILE DELUXE #35 SERIES for 35mm negatives in strips of 6, capacity 1800. #35-G-100 chest, 100 glassine envelopes, index, guides, **$8.45;** #35-G-300 chest, 300 envelopes, index, guides, **$10.75;** #35-A-100 chest, 100 transparent sleeves, index, guides, **$10.15;** #35-A-300 chest, 300 sleeves, index, guides, **$16.75;** 100 sleeves, index guides, **$2.95 DELUXE** #350 NEGA-FILE holds 3600 35mm negatives (100 complete rolls), or contact prints in strips of 6. With index, guides, and 100 complete #35 Nega-tubes; hardwood chest, **$22.25;** #305A, with Nega-Tubes containing transparent sleeves, **$39.75**

NEGA-FILE PORTABLE SERIES 34 for filing 3¼x4″ slides is made of hardwood. Permits view of slide without removal from chest. Removable index, numbered slots, for 25 slides, **$8.95;** for 50 slides **$12.45;** for 100 slides **$13.95.** CABINET-STYLE FILES for 3¼x 4″ slides, have 3 drawers side-by-side, each with a capacity of about 120 slides divided into 8 compartments; recessed drawer permits easy access; files may be stacked. #34-350, **$21.95;** #34-150, similar, permits individual filing of 350 slides in slots, **$25.95**

NEGA FILE DELUXE 4x5″ holds 300 films. #45-G-100 chest, 100 data-printed-glassine envelopes, index, guides printed from 10-100, **$7.95.** #45-G-300, 300 envelopes, index, guides printed from 10-300, **$10.95.** #45-A-100, 100 transparent sleeves, guides printed from 10-100, **$10.75.** #42-A-300, 300 sleeves, index, guides printed from 10-300, **$18.25**

INGENTO NEGATIVE PRESERVERS are made of best super-strength Kraft paper. Printed in black on front to indicate number, name, order, remarks, retouched, order finished, re-order; room for remarks in section indicated. Thumb cut. 3¼x4¼″: 1000 **$8.30.** 4x5″: 1000 **$8.65.** 5x7″: 1000, **$12.75.** 8x10″: 1000 **$18.70**

NEGA-FILE DELUXE #57 SERIES hold 5x7″ films. #57-G-100 chest, 100 data-printed glassine envelopes, index, guides printed from 10 to 100, **$12.65;** #57-G-200 chest, 200 envelopes, index, guides printed from 10 to 200, **$16.25**

NEGA-FILE DELUXE #810 SERIES hold 100 or 200 8x10″ films. #810-G-100 chest, for 100 data-printed glassine envelopes, index, guides printed from 10 to 100, **$23.95; #810-G-200** chest, 200 printed envelopes, index, guides printed from 10 to 200, **$29.95**

NEGA-FILE DELUXE #16 SERIES holds total of 300 #122, #522 or #541 films. #16-G-100 chest, with 100 glassine envelopes, index and guides, data-printed from 10-100, **$8.95.** #16-G-300 chest, 300 envelopes, index and guides printed from 10-300, **$12.65**

NEGA-FILE ENVELOPE REFILL PACKAGES have 100 envelopes plus index and numbered guides. Envelopes available separately, either plain or data-printed so negative data can be included on envelope. From **55¢** to **$6.25**

NEGA-FILE SLEEVE REFILL PACKAGES include 100 sleeves plus index and numbered guides, sleeves are also available separately. **$2.70** to **$4.45**

NEGA-TUBE #35 for filing of 35mm film. Tube has 6 glassine envelopes with capacity of 36 exposures. Space for exposure data on outside. Each, **12¢**; with sleeves, **27¢**

WORCESTER NEGATIVE PRESERVERS are made in strong brown kraft and super-transparent glassine. Kraft negative sizes, 3¼ x 4¼″ to 8 x 10″, in units of 1,000, 5,000, 10,000 and 25,000. Per M, **$4.95 to $10.50;** Super-transparent glassine, negative size. 3¼ x 4¼″ to 8 x 10″, package of 1,000, **$9.27** to **$15.85.** Gummed Flap Kraft, 3⅛ x 5½″, 9½ x 12½″, package of 1000, **$3.11** to **$13.58**

print tongs

COLUMBIAN BALL-POINT PRINT TONGS are made of heavy stainless steel. "Ball-Point" gripper end prevents scratching of film or prints. 7″ long. Set of 2 pair tongs, **$1.10**

FR PLASTIC PRINTONGS have ribbed handles so they can't slip into tray. Meshed jaws prevent prints from slipping. Set of 2 (one red, one black) **80¢**

YANKEE PRINT TONGS are made of durable red and blue Hi-Impact Styrene, 10″ long. Deep-throated spring design, duckbill ends hold firmly without damaging film or paper. Retain flexibility. Packaged in attractive box. pair, **70¢**

silver recovery units

FISHER SILVER RECOVERY UNIT gathers silver electrolytically at the rate of one oz. per hour. Uses two to three cents worth of electricity per hour. Silver is pure and can be sold at market prices w/o refining. Also results in hypo savings, as the fixer life is prolonged, by suitable replenishment and PH maintenance, at least 5 times longer than normal. Unit is complete, just plug into outlet and connect to fixer tank by hoses or piping. MODEL O-57, **$342**

PAKO MM SILVER COLLECTOR for overflow silver recovery from B & W and color fixing baths. Complete unit consists of MM Silver collector, PAKO circulation-filtration unit #31-1055, 50 gal. PAKOTANK w/cover and drain nipple, #31-1099 and #39-3-1 plumbing group, **$839**

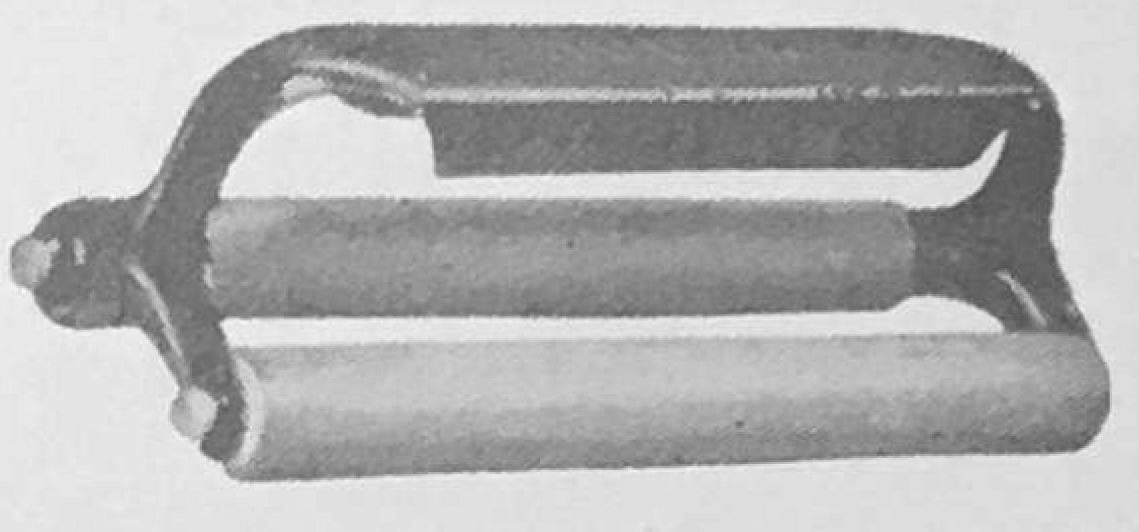
squeegees, rollers & sponges

DU PONT PHOTOGRAPHIC SPONGE has many uses. For example, it is ideal for sponging negatives in squeegee fashion. No lint. Absorbs approximately 20 times its weight in water. Can be cleaned by boiling in water. In lithographic shops, excellent for press wash-ups, application of gum arabic to plates, general plate-cleaning on-press, etc. 4 sizes; 4A-F (1x3x4½″) **30¢**, 6A-F (1-5/16x3⅝x5⅛″) **50¢**, 8A-F (2x4x6″) **$1**, 10A-F (2-3/16x4½x7¼″) **$1.50**

FR ABSORBENT FILM SQUEEGEE has stainless steel handles, fine-pore cellulose sponges which absorb up to 20 times their weight in water. Large enough for all rollfilm sizes and many cutfilm and film pack sizes. **$1.30**

KODAK MASTER PRINT ROLLERS are large, professional-type rollers. Lightweight, aluminum die cast, Rust-resistant construction. Rubber roller surfaces precision-ground to close tolerances for uniform contact over entire print area 12″ **$19.25;** 17″ **$24**

KODAK DOUBLE PRINT ROLLER is easy to use; execllent for ferrotyping or mounting. Metal handle connects two 6″ rubber rollers. **$6.50**

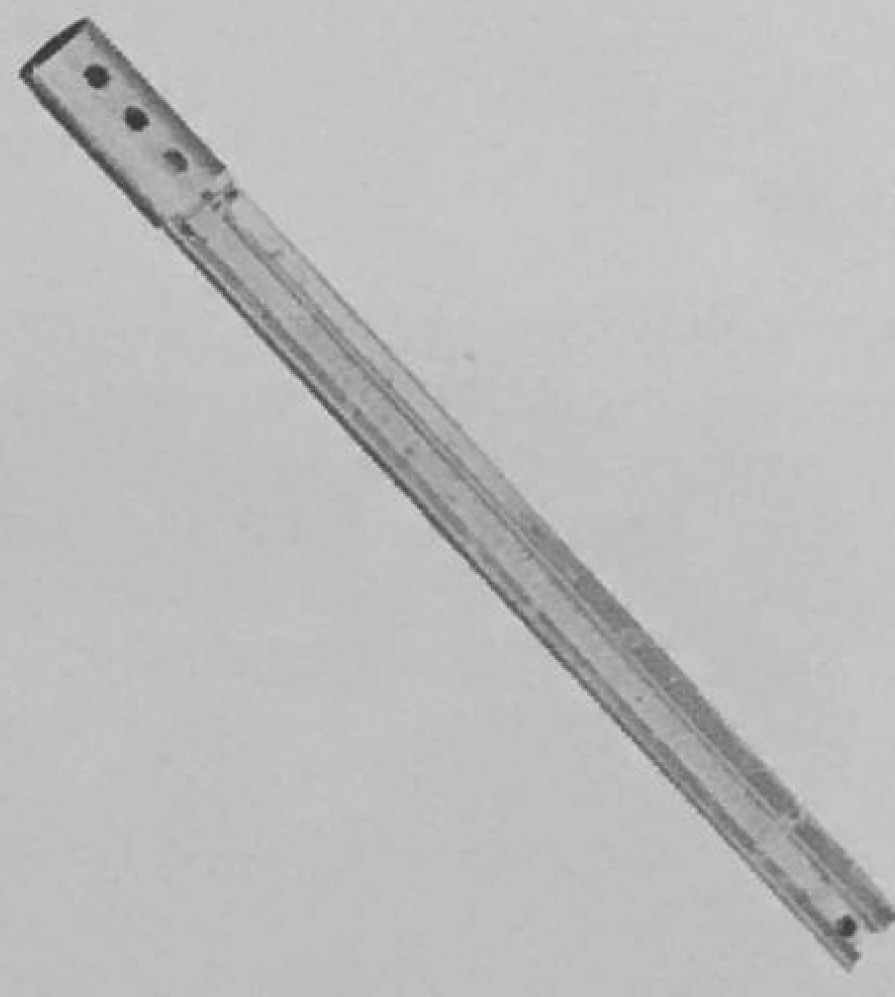


SQUEEGE-IT is a simple device for wiping water from film. Consists of two parallel arms which hold durable rubber blades. Film is passed up between the blades and pulled through with a single motion, wiping both sides of the film clean. Unit is so constructed that it may be permanently mounted, at the site of the user's choice, with supplied stainless steel mounting screws. No scratching, streaks, spots. **8″ SQUEEGE-IT** accepts roll film and cut film up to 5″ wide, **$8.95; 18″ SQUEEGE-IT** made for offset printers and x-ray technicians, accepts film up to 14″ wide, **$19.95;** 26″ **SQUEEGE-IT,** for photoengravers & others who work with film up to 20″ wide, **$24.85**

TESTRITE ROLLRITES come in 2 series. Series 20: sturdy, lightweight, come in following widths. 4″, **55¢**; 6″, **75¢; 8″, $1.** Series 60: made of ground rubber tubing, roller rides on steel ball bearings: 4″, **$1.15;** 6″, **$1.60;** 8″, **$2.20**

thermometers

KODAK PROCESS THERMOMETER Type 2 is accurate to ¼°, range of temperatures from 68 to 82 F. One-degree increments. Scale runs from 55 F, with expansion chamber to 140 F, 12½″ long. Glass, with easy-to-read graduations. **$12**



KODAK COLOR THERMOMETER is specially designed for use in processing Kodak Ektachrome Film and in other color processing. Accurate to one-half degree in the critical 75° F and 68° F temperature required in color processing. Also available with Centrigade scale. **$3.75**

KODAK DARKROOM THERMOMETER gives reliable temperature readings from 40 to 120°F in two-degree graduations. Glass-enclosed, 5¾″ long. **80¢**

KODAK PERFECTEMP DIAL THERMOMETER—Accurate processing thermometer with easy-to-read 3-inch nonparallax dial. Range is 50-100 degrees. Has clip & lugs for tank or tray processing, and ½-inch NPT thread for piping installations. 9-inch stem. **$26.75**

KODAK STIRRING ROD THERMOMETER can be used for mixing solutions and determining their temperatures. 9¼″ long, one end is flattened for softening chemicals. Temperature range 20 to 140° F, in 2° increments. **$2.95**

KODAK TANK & TRAY THERMOMETER has pivoted spring clip on back which holds it at top of tank or tray. Scale readings from 30 to 140°F, in 2° increments. 4⅞″ long. Supplied carton of 5 ea., **$1.75**

FR PHOTOGRAPHIC THERMOMETER will not rust or corrode because it has a protective stainless steel housing. Fits into roll film tanks, clips to side of cut film tank. Easy to read scale from 49° to 90°F, **$1.65**

TESTRITE THERMOMETERS are available in several different models. Floating tank and tray thermometer, **45¢**. Hanging stainless steel thermometer, **$1.05**. Developing tank thermometer, **$1.65**; with aluminum case and cap, **$1.95**. Stirring rod thermometer, **$1.95**

WESTON PHOTOGRAPHIC THERMOMETER provides fast response to temperature changes. For tanks, beakers or trays. All metal, encased in stainless steel; withstands submersion. Dial-type scale, 0° to 140°F., indexed at 68°F., within 1° at other points. Dial has metal feet to keep thermometer in easy reading position, holds it on rim of deep container. Has 6″ stem. **$8.50**

remote reading thermometers

LAWLER STANDARD THERMOMETER has 4″ dial with range from 40° to 140°F. Straight stem has ½″ NPT coupling thread for tail pipe attachment. Only 1½″ thick from front to back, **$20**; Tail pipe, **$5.50**

ROLOR MERCURY REMOTE READING THERMOMETER MODEL RT-10 is ultra-sensitive, with large volume mercury actuation. Large, luminous hand and markings on a glass-protected black dial. Range restricted to allow for extreme accuracy between 50 and 100°F., with graduations in single degrees. Indexed at 68° and 75°F. for quick reference. Attractively housed in a stainless steel box for wall or sink backsplash mounting with stainless steel mercury probe supplied with a 4′ attached semi-rigid tube. Probe has ½″ threaded adapter for bulk-head fitting or spud. **$95**

darkroom ventilators

ELKAY DARKROOM VENTILATORS supply fresh air to your working quarters. Can also be used to remove stale air. Requires oiling only once a year; needs no other attention. Available in two models. Available in single unit with 85 to 100 cubic feet of air per minute, and double unit with capacity of 170 to 200 cubic feet of air per minute. Both units obtainable in A.C. and D.C., operate on 110V-60 cycle. Single unit **$16.95.** Double unit **$23.50**

LITE TITE DARKROOM VENTILATOR changes 200 cubic feet of air per minute but costs less to operate than a 100-watt bulb. Finished in brown wrinkle enamel with aluminum trim; five 8-in. synchro-balanced blades. Rated at 70 watts, runs on 110 volts 50-60 cycle AC. Unit is 12-in in diameter, 7-in. thick. Supplied complete with pre-fixed plywood backboard and 6-ft. electrical cord. U.L. approved. **$24.50**

MILLER-TROJAN DUSTROYER is a light tight unit that pumps 275 cubic feet per minute of dust-free air into the darkroom, laboratory or any other enclosed work area. Pressurizes the area, which expels stale air and repels dust when door is opened. Silent, vibration-free operation; single toggle switch. Directional air-flow grids. 16⅛x12¾x12½-in. fits between joists. Weight approximately 25 lbs. Supplied with extension cord, ready wired, for any 110 volt 60-cycle outlet, **$63.40**

air purifier

PURITRON AIR PURIFIER electronically purifies air by means of Ultra-violet Ray Tubes. Circulating a constant supply of clean air through superfine washable aluminum filters and baffled strainers. Puritron U-V tubes have life expectancy of 4,000 hrs. Plugs into any standard 110-volt outlet. Puritrons will rid the air of grease, smoke, dusts, and chemical odors. Come in white, gun-metal gray, and leather-tone, **$39.50** to **$239.80**

ferrotype plates

ACME HEAVY DUTY FERROTYPE PLATES are black enameled type and available in 5 sizes, prices per doz., 10x14″, **$7.28**; 12x17″, **$11.20**; 14x20″, **$14**; 18x24″, **$22.40**

darkroom furniture

AJUSTRITE CHAIRS & STOOLS are available in both swing bracket and floor models. They feature a pressure-grip Automatic Adjustment Mechanism which permits variable height levels. From **$15 to $55**
NO 1241

changing bag

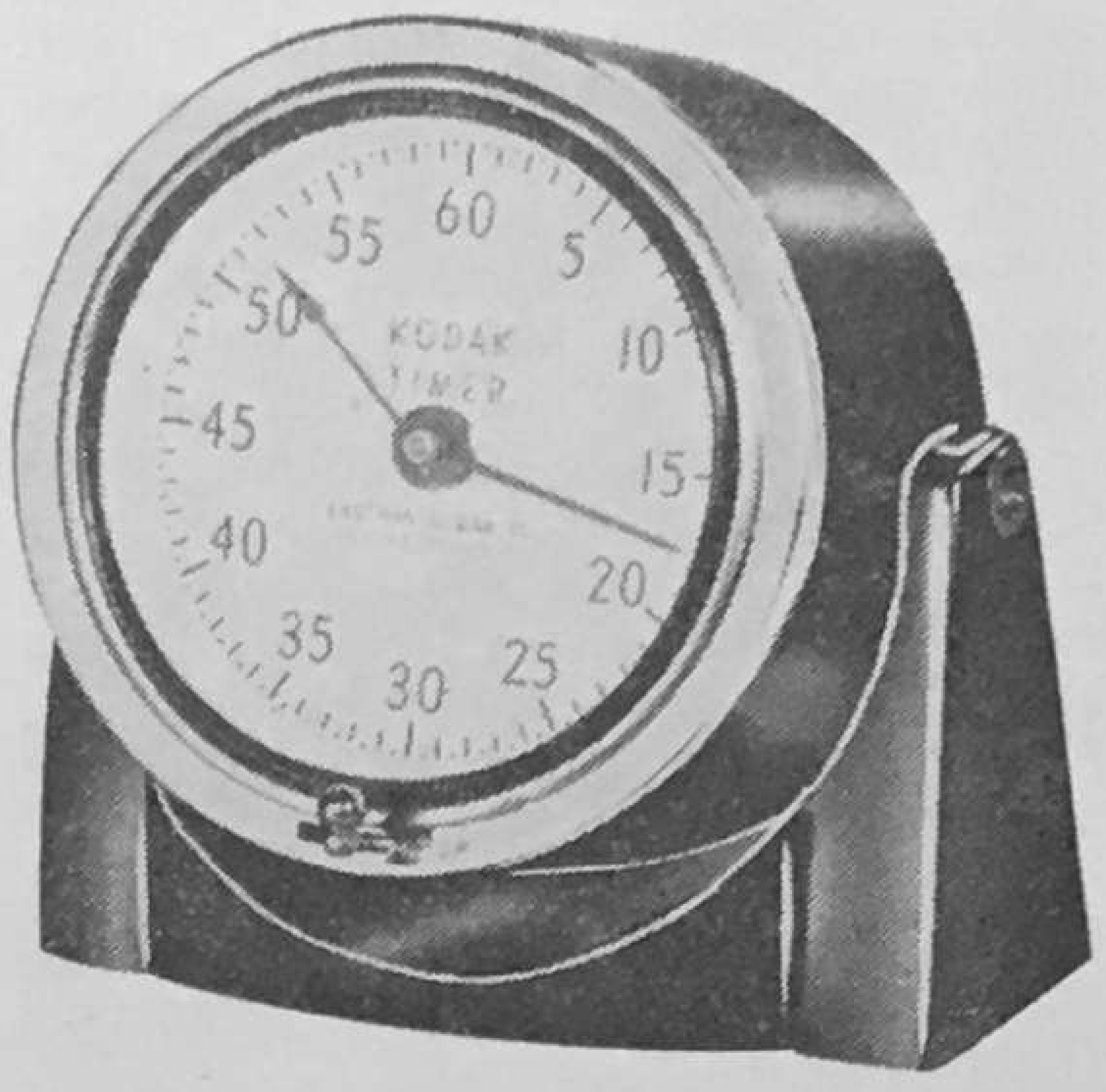
MELROSE CHANGING BAGS are useful indoors and out. Absolutaly lightproof with rubberized inner bag and silk-finished sateen outer bag. Zipper openings and snugfitting elastic armholes permit complete comfortable handling in broad daylight. Four sizes: 4x5, **$7.30**; 5x7, **$11.60**; 8x10, **$14.20**; 11x14, **$16.70**

TIMERS

mechanical

KODAK SEVEN-DAY TIMER, MODEL 40—(For Kodak Precise-Temp Control)—Automatic 7-day timer for use with other electrical equipment as well. Will start and stop power as desired. 60-cycle model, **$21**; 50-cycle model, **$22.50**

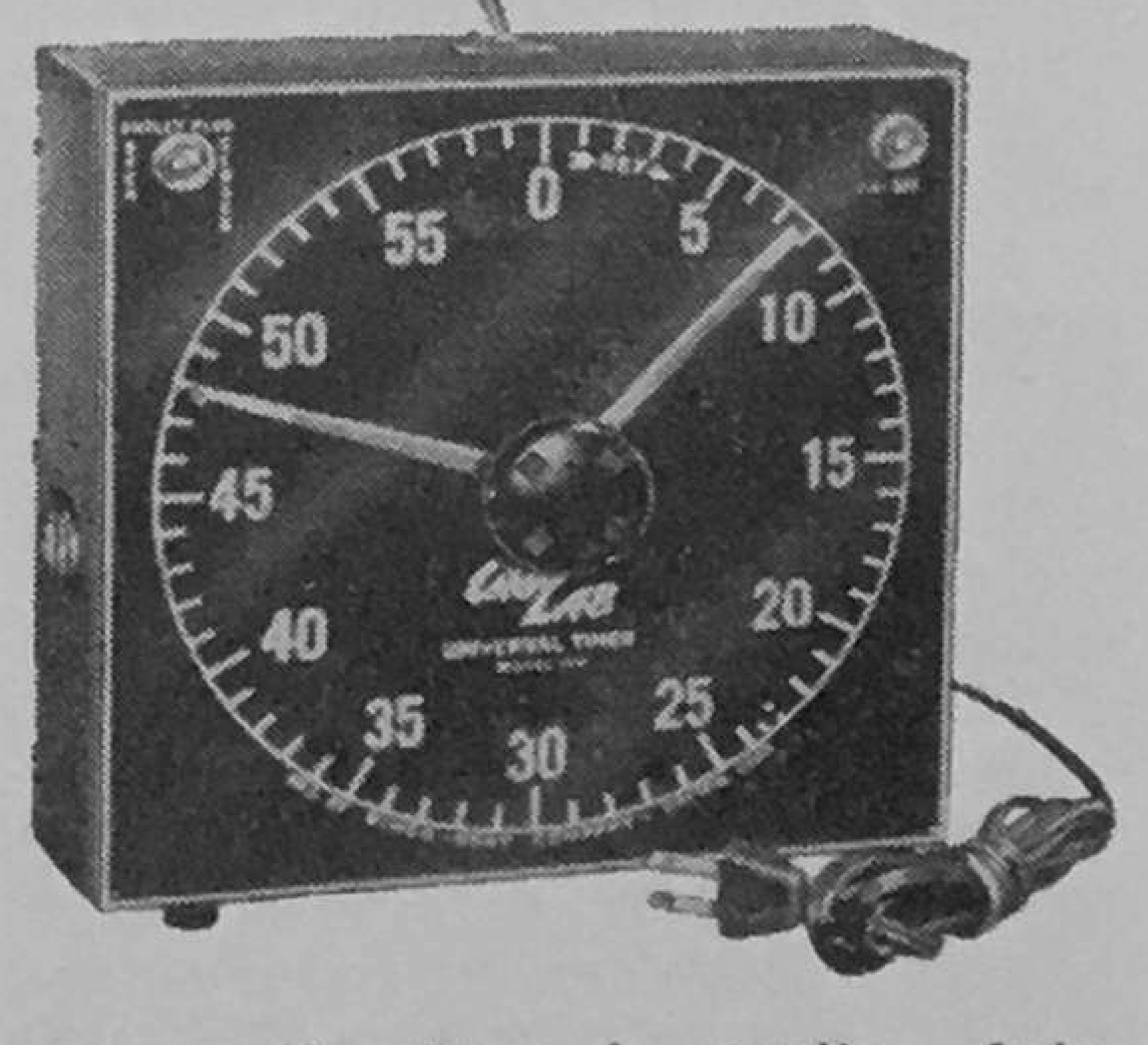
KODAK TIMER WITH TILTING BASE has both minute and split-second hands; covers intervals to 60 minutes. Spring-wound. Can be stopped and started without resetting hands. Tilted base permits easy visibility at an angle. White dial plainly marked for easy reading in darkroom **$10.50**



G-E MECHANICAL INTERVAL TIMER which measures any interval from 15 seconds to 2 hours, features presetting. You can set the timer for the interval you want—in the light, but timing doesn't actually begin until you pull down the actuating lever. This can be done in the dark. Thus, you can set the timer conveniently in the light, begin your timing procedure after the room is darkened. The black dial has large, white easy-to-read numerals and is protected by an unbreakable plastic window. Molded styrene case easy to clean and can't be affected by water or chemicals. **$11.95**

electrical

GRALAB LUMINOUS UNIVERSAL TIMER has giant 8″ dial marked with phosphorescent numbers for easy reading even in total darkness. Times any darkroom operation from 1 second to 60 minutes. Split-second accuracy, assures uniformity of results. Automatically controls enlarger exposures. Switch for easy focusing; built-in electric buzzer. Powerful 110-volt AC motor. Two hands, with vernier adjustment, provide 3600 distinct settings. Outlet receptacle is controlled by selector switch, makes or breaks circuit at zero. **Model 168 $24.95.**

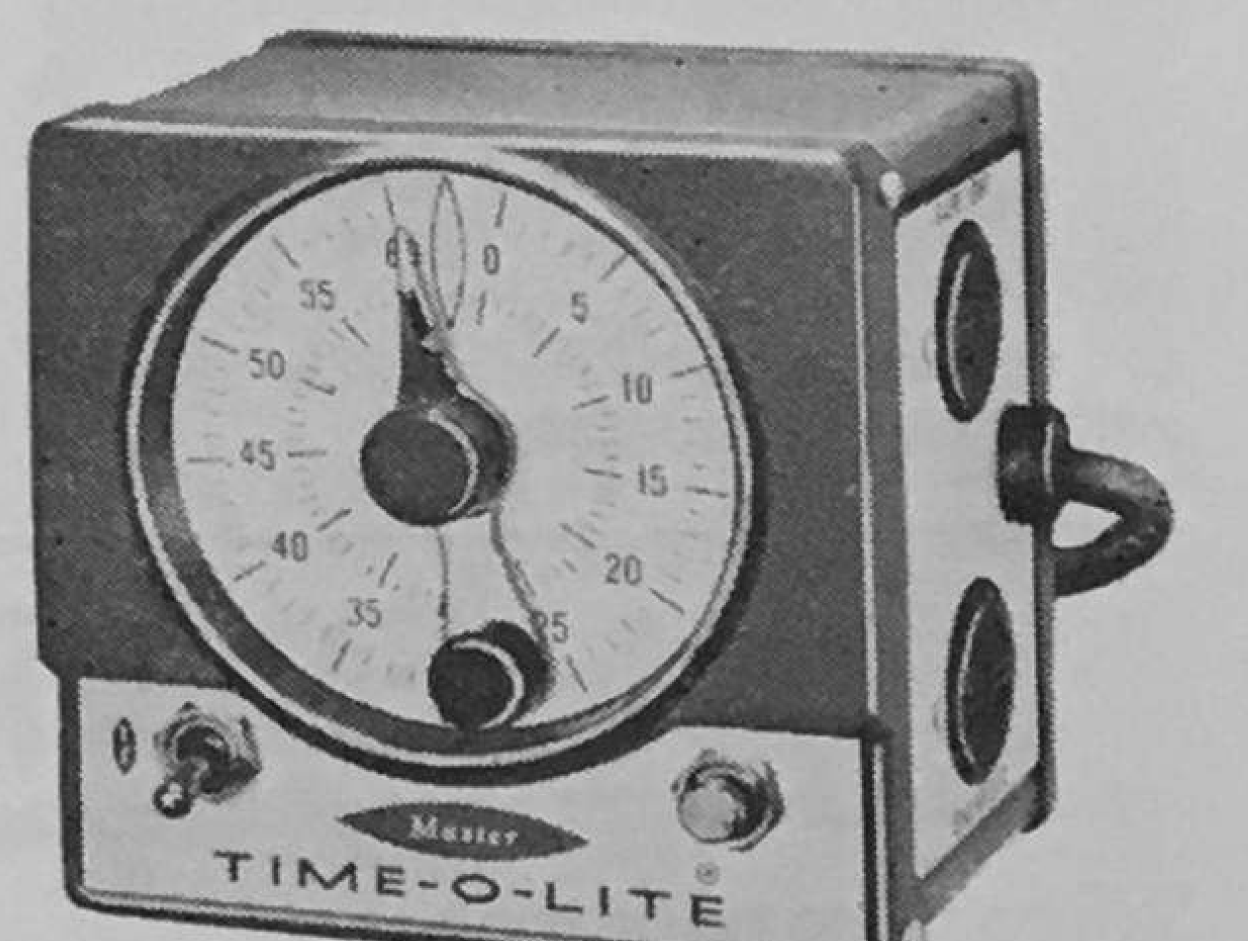


Model 165, non-luminous dial, black and aluminum trim, has inner circle of red numerals for stop-lock timing, **$23.95. Model 167** similar, but white enamel finish, **$26.95. Model 172** has ¼-second setting, times 15 minutes by minutes, seconds and quarter-seconds, **29.95**

G-E ELECTRIC INTERVAL TIMER. Bring automation to all your timing procedures by adding this electric interval timer with automatic time resetting. It permits you to repeatedly measure identical time intervals, without constant resetting, without winding any mechanisms. Just set its two indicators for any time period from 30 seconds to one hour and flip switch to "ON". The large metal pointer will remain at any selected setting until a different timing period is selected. When the switch is turned to "OFF", the smaller red pointer returns to the same position as the large metal pointer and the timer is automatically reset to time the same interval. A ruby red light glows whenever the timer is in operation. **$24.50**

TIME-O-LITE products, manufactured by Industrial Timer Corp. are used and recognized throughout the photographic world, because they have proved to be lasting and indispensable aids for better photographic processing. Time-O-Lite timers have hundreds of applications in industry such as electronic tube control, blueprinting, photo-engraving, electroplating, induction heating, chemical agitation and plastic molding. They are designed to help make better photographic prints, and save time, money and paper.

INDUSTRIAL TIMER M-59 MASTER has red outlet to control darkroom lights, black outlet to control enlarger or contact printer lights. UL-approved. **$24.50**



INDUSTRIAL TIMER P-59 PROFESSIONAL has 3 outlets: red controls darkroom lights, black controls enlarger or contact printer lights and small is used for remote control with foot-switch. Heavy-duty line cord, steel construction. UL-approved **$32.50**

INDUSTRIAL TIMER R-100 will prevent scorching of canvas belts on dryers. Manual control of timing operation, dryer motor runs continuously. Can be used with Pako and other types of canvas belt dryers. **$29.50**

INDUSTRIAL TIMER S-59 SIGNALING TIMER is equipped with a loud buzzer and a new receptacle for plugging in of a remote buzzer or light to alert operator of end of time cycle. UL approved. **$19.75**

INDUSTRIAL TIMER TIME-O-LITE MONITOR provides visual and manual regulation of input voltage to enlarger bulbs.

Designed to manually correct line voltage loss in color processing. Regulates from 6 to 135 volts, rated at 500 watts, AC only. Equipped with protective fuse, volt meter and heavy duty line cord. **$49.50**

TIME-O-LITE PROFESSIONAL TIMER KIT . . . includes the P-59 Professional Automatic Reset Timer, the new compact dual purpose FS-59 Footswitch, and a special adapter for use with the footswitch. Any one of the series P-59 timers is available in the kit. See description of the P-59 Timer above for characteristics. Eliminates paper waste —saves money. Complete kit, **$40.45**

LEKTRA ELECTRONIC DECADE INTERVAL TIMER, TM-8 offers 1110 split second timing intervals of .1 to 111 seconds in .1 sec. steps. 1500W capacity yet has accuracy of ±5% or .03 seconds, whichever is greater. Top of panel controls. Shuts off darkroom light when enlarger goes on. 12x5½x5½″, 10 lbs., **$72**

LEKTRA ELECTRONIC PHOTO-TIMER MODEL TM-5 for split second timing is entirely automatic and 100% electronic. For contact printing it instantly resets without touching time selector dial. You get exact uniform exposure time from the first print to the last. For enlarging, set the interval on the positive, easy-to-set dials. Flip the switch, stops the exposure automatically. **$32;** Model TM-SR, w/remote control, **$39.50**

LEKTRA ELECTRONIC TIMERS are fully automatic, have application in enlarging, contact printing, color work, photo mechanical processes, etc. **Model TM-8** decade-type with range from 0.1-111 secs. in 1/10 sec. steps; remote start; safelight and focus outlets. **$72. Model TM-9** for high-wattage lamps and other heavy loads; range 0.1-11 secs. in 1/10 sec. steps. Capacity; 1,000W non-inductive DC, 2,000W non-inductive AC. **$65. Model TM-5** has range 0.2-11 sec in 1 sec. steps and from 11-60 secs. in 2/10 sec. steps; operation on 115 volts AC or DC; capacity 1000 watts AC, 200 watts DC, **$32. Model TM-5R,** same as TM-5 except designed for foot-switch or automatic operation from platen switch of printer. **$39.50**

NEMS CLARKE TC-100 TRI-COLOR ELECTRONIC TIMER is specifically designed for 3-color process work, particularly Type C printing using the 3-filter method. Actually 3 timers in 1, each unit adjustable from 0.1 to 111 seconds in precise 0.1 intervals. No warm-up time needed, no variation because of internal heat. All timing circuits regulated to varying AC line voltages. Accurately calibrated printing factor dials can be set so time is automatically corrected for Type C paper individual boxes. A single switch transfers timing functions to red, blue or green timer. In printing, all operator does is turn this switch and press button. 115-volts AC. **$340**

PHOTOVOLT ELECTRONIC PRINTING TIMERS provide actual split-second accuracy. May be operated from foot switch or platen of contact printer. Click-stop dial. Two timing ranges: 0.25 to 4 seconds and 5 to 80 seconds. 110-volt 60-cycle AC models: 800-watt **$70;** 1500-watt **$82.** DC models: 800-watt **$82;** 150-watt **$95.** Military model for use under adverse climatic conditions, 105-120-volt, 55-65 cycle, 1500-watt AC, with timing from 0.2 to 2.75 seconds **$90.** Special models with timing ranges from 0.1 to 100 seconds available (prices on request). Print timer attachment **$6.** Foot switch attachment **$5**

ROBERTSON ELECTRIC SHUTTER is solenoid type and plugs into Robertson Timer, **$55**

ROBERTSON TIMER is three minute reset type with 110VAC plug, outlets for Roberson contactor, flash lamp and shutter, **$70**

ROLOR LUMINOUS AUTO-RE-SETTING STEP TIMERS are fully dependable synchronous-motor step timers, featuring highly readable, luminous hands and markings on a black dial face with heavy protective glass covering. Automatically re-sets to pre-selected time settings at the touch of a button. Has switch-controlled sustained alarm to signal completion. Attractively mounted in a stainless steel housing for wall or sink back-splash. Models in three different maximum time ranges: **MODEL ART-5,** max. 5 mins. **MODEL ART-15,** max. 15 mins. **MODEL ART-30,** max. 30 mins. Ea., **$85**

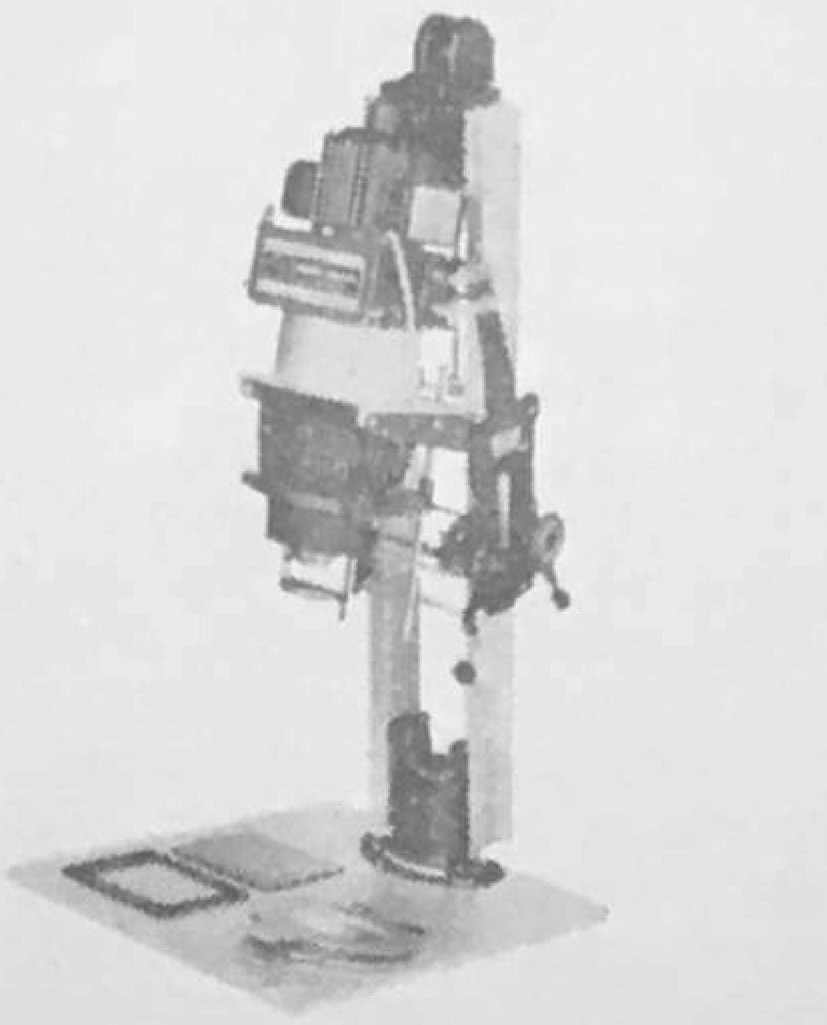
ENLARGERS

35mm enlargers

DURST M35 (MICROMAT) Is a fully automatic focus enlarger/copy camera for enlarging 35mm and sub-miniature films up to 17 diameters on the baseboard, illuminated f/stop settings, visible in darkroom. Illuminated scale indicates magnification factors. Reversible film cups. Lamphouse accepts both standard screw-base and medium prefocus bayonet base lamps. Red safelight filter built in. Distortion controls, Color filter drawer. LENS: 50mm, f/3.5 Schneider Componar. Complete with lens **$285.** With 50mm f/4.0 Schneider Componon lens. **$320.** Automatic 35mm copy cassette, **$139.** Copy light accessory, **$99.50**

OMEGA A-2 ENLARGER WITH BUILT-IN COLOR-HEAD for 35mm and bantam negatives, or smaller down to ultra-miniature size. Available in two models, the Portable A-2, with 20x12″ baseboard, 30½″ column, which folds away into its own case, and the Professional A-2, with 16x20″ baseboard and 36″ column. Both models have rigid cantilever construction with inclined aluminum girder designed to withstand vibration. Even illumination assured by double condenser matched to lens. Right-hand controls and gearless mechanism provide quick, smooth focusing without play or backlash. While the maximum size of prints from 35mm negatives is 8x10″ with the Portable and 11x14 with the Professional, this is only true when easel is on baseboard. Both models can be swung 180° for floor projection without loss of rigidity or alignment. Wide range of accessories available, including Leica-thread lens-mount, three-color filter holder, Varigam filter holder, portrait soft-focus attachment, holders for mounted and unmounted slides, microfilm 100′ roll holder. Supplied with mount for 2″ lens, color filter holder, rapid-shift 35mm carrier, and red filter. Less lens and carrying case, PORTABLE A-2 with condenser and colorhead, **$122.75;** PROFESSIONAL A-2 with condenser and colorhead, **$124.75**

OMEGA D2V AND AUTOMEGA D3V offer the ultimate in 4x5 enlarging, negative sizes from 4x5″ down to 35mm or subminiature. Enlarging ratio up to 18 times, but varies with focal length of lens used. Maximum size prints 16x20″ —or larger prints on the baseboard— for each negative size. Still larger by floor projection. Size of baseboard-18x 26″. Height from table to top of girder-45 ¾″. Height from table to top of lamphouse-56½. The Variable Condenser System is a 3-element unit, with permanently positioned 6½″ condensers used alone for 6⅜″ lenses. For 5⅜″ and shorter focal length enlarging lenses, the top condensing lens is shifted into indicated positions to properly distribute light on the baseboard. Eliminates need for auxiliary condenser lens sets—even when using 35mm film and a 2″ enlarging lens.

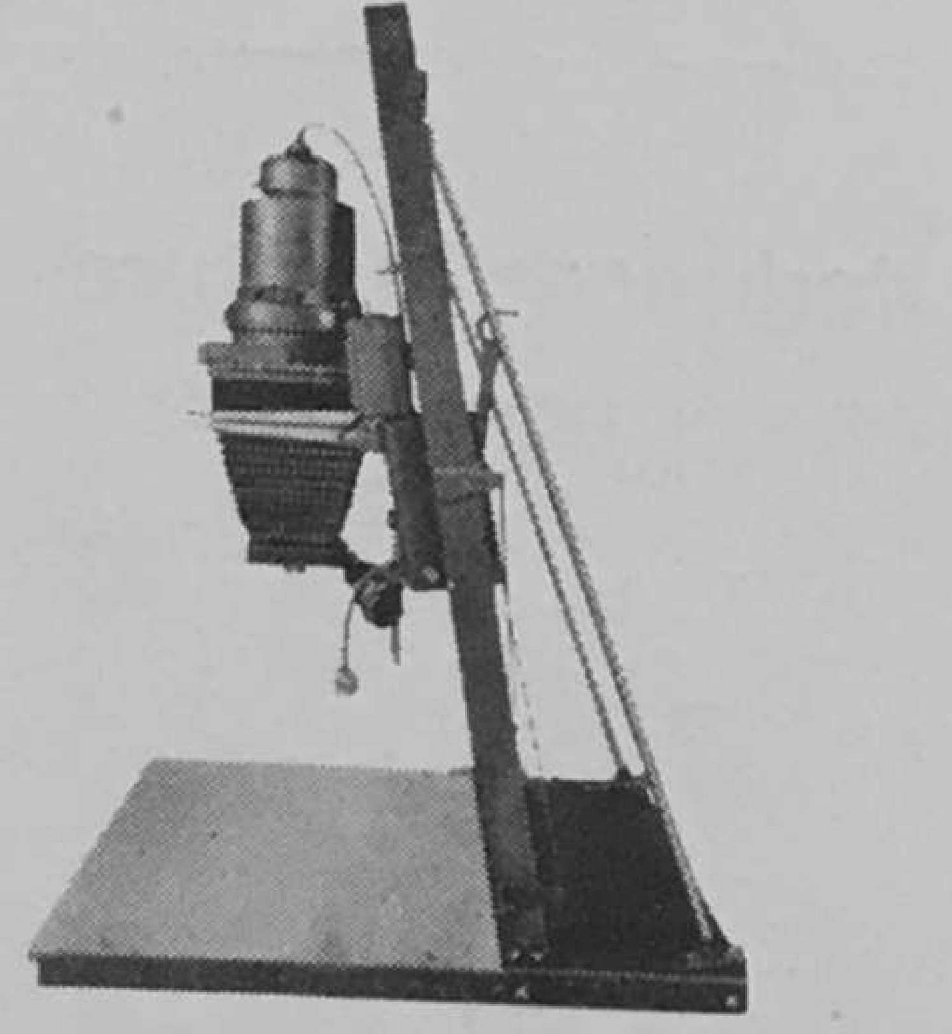


Camera-precision factory-locked alignment of filmholder, lens board and baseboard prevents distortion and insures overall sharpness of your enlargements. Locked into position at the factory, these parts stay permanently in precisely parallel alignment.
OMEGA D2V manual focus with color-head lamphousing and variable condenser system, **$285.50; Omega D2V Special** (same as above but 12″ longer girders), **$330. Automega D3V,** Autofocus model with color-head lamphousing and variable condenser system, **$325; Variable Condenser System** accessory— fits existing Omega D2 and D3 enlargers, **$49.50**

* * *

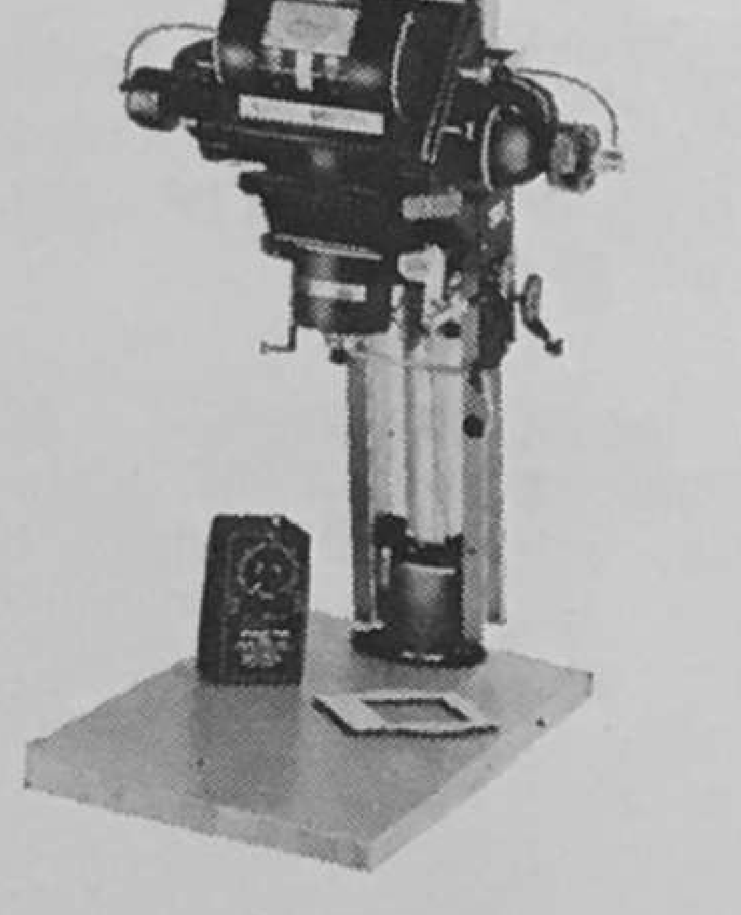
up to 4x5″

BESELER 45 ENLARGERS accept negatives from 8mm to 4x5″, have triangular aluminum and steel truss structure with reinforcement to prevent vibration. Condenser type; 13″ bellows extension; electric motor position lamphouse smoothly and accurately, plus manual control; tilting lens stage; lateral positioning, permitted centering or use of two 8x10 easels simultaneously; locking of lens stage, lateral movement and negative stage for repetitive printing. Overall height, 52½″; plywood baseboard, 25½x28½″; with red filters; accepts Varigam filters. **#45M, $255.75** in East, **$264.75** west of Denver. Bescolor Lamphouse including Colorhead Assembly **$96** & **$99.50. #45MC** includes Bescolor Colorhead and filter control, **$274.75** and **$283.75. #45MCR** (illustrated) includes Bescolor Colorhead and filter, **$284.75** and **$293.75. #45MCR-X** has rear reinforcement of truss, color head, Resistrol filter holder and control, plus all other features, **$309** and **$318. #45H** for 4x5″ negatives, **$209** and **$218. #45MB** for cool operation; cold cathode grid lamp guaranteed 10,000 hours. **$255.75** and **$264.75. #45MB-X** is same with rear triangular truss support, **$277** and **$286. #45AFM**—new Autofocus enlarger with electric motor drive. **$475** and **$484. #45AF** is same without motor, **$395** and **$404.** All models have two 6½″ condensers, 4x5″ negative carrier, center-drilled 4x4″ lensboard, 2⅜″ sq. plastic safety filter, and #211 enlarging lamp (except model #45MB which has Beslite 45 Cold Cathode Gridlite), less lens. Lenses include Eastman Kodak f/4.5 from 2″ to 7½″, Wollensak Raptar f/4.5 from 1″ to 7½″ Schneider Componon from 2″ to 8¼″. Graflok-type camera back, **$42.75** and **$44.90.** Copy Lights (pair), **$19.75** and **$21.** Resistrol Unit, **$15.25.** Lens Stage filters, Polycontrast set of 7. **$9.65;** Varigam, set of 10, **$10.95.** Besite Cold Cathode Gridlite Lamphouse, **$67.50** and **$70.50.** Glassless Negative Carrier, **$7.95** and **$8.40;** for 35mm 2x2″ mounted, **$14.75** and **$15.50;** universal, **$14.75** and **$15.50;** Rapidshift, **$19.75** and **$20.75;** 100′ Rapidshift for 35mm or 70mm, **$89.95** and **$93.95**



BESELER 23C accepts negatives from 8mm to 2¼x3¼″. Condenser type aluminum and steel structure, cantilever construction; color head; elevation control by rack and pinion; locking brake; overall height with lamphouse in top position, 45″; plywood baseboard, 18x25½″. With Bescolor 23C Condenser Colorhead two 4½″ matched condensers, one 2¼x2¼″ rollfilm dustless negative carrier, one #111A, 75-watt opal enlarging lamp, one center-drilled 4x4″ lensboard, one 2⅜″ sq. plastic safety filter, less lens, **$139.75** in East, **$145.75** in West. **DREAM DARKROOM KIT,** consisting of 23C Enlarger and darkroom equipment kit, **$195.** Lenses, Resistrol, Bestrol Voltmeter, lensboards, lens stage filters and negative carriers same as for 45 series.

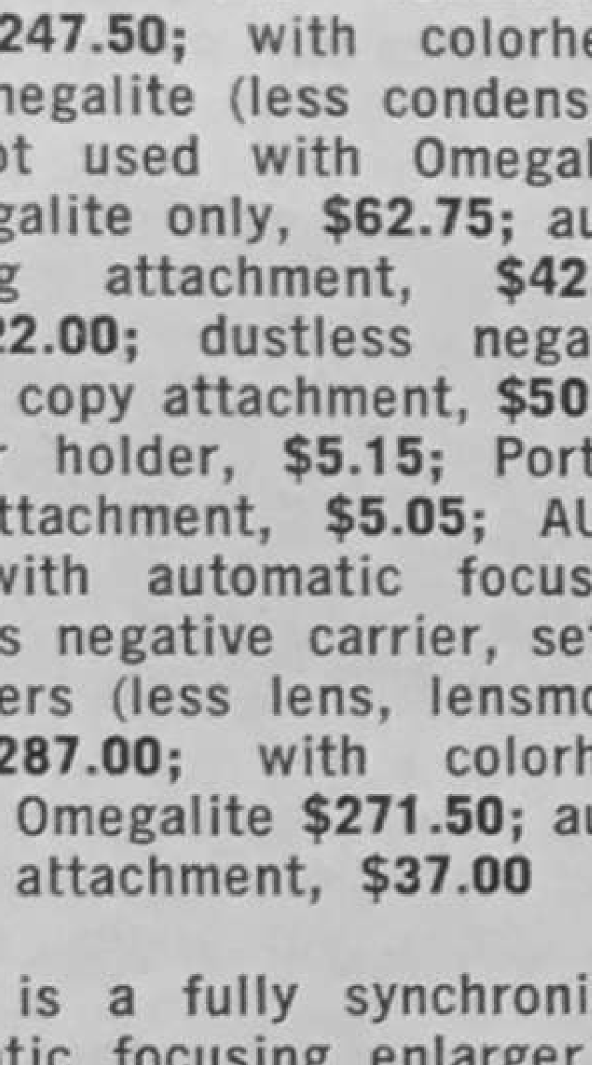
CHROMEGA D4 from Simmon Omega is an enlarger taking color or black and white negatives up to 4x5. It accepts lenses from 6⅜″ to 2″ and permits magnification from 4-1/5x with 6⅜″ lenses to 17½x with 2″ lenses. it features: autofocus performances with interchangeable lenses; accommodation for 3 autofocus cams simultaneously; rotable negative carriers; unobstructed baseboard measuring 18x34″; electric synchronous timer; 110-120 volt. 60 cycle AC; two 100 watt, 20 volt incandescent lamps. Special lamphousing aims 2 lamps through dual systems of filters into a hollow globe. This filtered light is mixed and then directed down towards the negative, giving light distribution without condensers. Individual dials indicate numerically the relative amount of color filter density from "0" to "120". A single knob for each color (magenta, cyan and yellow) rotates two discs of



filters, one at the end of each light collector, outside of the integrating sphere in which the filtered light is mixed. High efficiency heat absorbing glass is an integral part of the lamphouse. Autofocus operation: a crank-operated mechanism raises and lowers the entire assembly with choice of autofocus tracks factory computed for each selected lens. Permanently aligned negative-lens-baseboard planes assure maximum overall sharpness. Enlarger dimensions: height—52″; width—28″. Chromega D4 including lamphousing and color filter wheels, timer, 4x5 glassless holder, lamps (less lens or autofocus track), **$645.** Chromega lamphousing assembly with filter discs and timer for use with all Omega D2. Automega D3 enlargers (rack and pinion style), **$445.** Same, for use with Omega DZ model without rack and pinion style, **$445.** Coated lenses, including matched lensmounts and autofocusing tracks available.

OMEGA D-2 & AUTOMEGA D-3 ENLARGERS can be used with double condensers or OMEGALITE cold light unit interchangeably. Take negatives from 35mm to 4x5″, lenses from 2 to 6⅜″. Magnifications up to 18 times (depending on lens) on baseboard; larger magnification by rotating entire unit 180 degrees. Uses system of interchangeable condenser sets to match lens focal length, for maximum efficiency. Rigid inclined girder; counter-balanced head for smooth operation; twin-guide micrometer focusing. 75-watt opal bulb (150-watt may be used for dense negatives or for direct-color prints). 110-volt, AC-DC. OMEGALITE is cold light unit interchangeable with condenser head. Provides diffuser light, helps eliminate scratches, grain, other negative defects. Uses G-E Circline tube for instant starting and even illumination. OMEGA D-2, with glassless negative carrier and set of 6½″ condensers, less lens, **$247.50;** with colorhead, **$258;** with Omegalite (less condensers, which are not used with Omegalite) **$232.75;** Omegalite only, **$62.75;** auxiliary focusing attachment, **$42.00;** colorhead, **$22.00;** dustless negative holder, **$9.95;** copy attachment, **$50.45;** Varigam filter holder, **$5.15;** Portrait soft focus attachment, **$5.05;** AUTOMEGA D-3, with automatic focusing, universal glass negative carrier, set of 6½″ condensers (less lens, lensmount & track) **$287.00;** with colorhead **$297.50;** with Omegalite **$271.50;** auxiliary focusing attachment, **$37.00**

DURST D659 is a fully synchronized, double-automatic focusing enlarger for all negatives from 35mm to 2½x3½″.



It is equipped with two high-quality lenses of 50mm and 105mm focal lengths and can be used for both enlarging and photo-copying over a wide range of reproduction scales. Both lenses, critically focused for the finest definition, are mounted in a revolving turret, permitting lightning-quick changing; unique additional condenser system swings into place automatically whenever the 50mm lens is in use, double condenser guarantees the highest efficiency and absolutely even coverage of all negative sizes, right up to the margins. An adjustable, non-vibration red filter is fitted beneath each lens. Built-in luminous scales automatically show the magnification factor, which is so very important in color work, for each lens, in every position. **DUCOLI** Cold Light Unit available for this unit. **DUVAKO** connecting plate allows use of **AGFA** continuous band color head. Complete with self-masking negative carrier for 35mm to 2½x3½″, Schneider Componar lenses **$499.** With Componon lenses, **$599**

DURST LABORATOR 54 35mm to 4x5 AUTO-FOCUS/MANUAL ENLARGER & CAMERA features automatic focusing with Schneider-Durst Componon 105mm f/5.6 lens. Begins at less than 1:1 and extends to enlargements up to 5x. Construction of enlarger permits lenses of varying focal lengths to be used with manual focusing. Automatic transition from auto to manual focusing. In vertical position enlarger is auto-focus; swung horizontally it is manually focused for wall projection. Removable light source, ventilator cooled. Built-in reversible mirror serves as copying viewer. Filter drawer between lamphouse and condensers for color work. Accessory color filter wheel can be positioned underneath lens, or Agfa continuous band color filter head may be used. Unit may be used as studio 4x5 camera by adding Graflex, Linhof, or Polaroid back. Full distortion control. Negative carrier is designed with cutout for grey scale or test strip. Focus Variator allows use of different size easels with auto focus. Lacoli Cold Light may be adapted for use with this unit. Supplied with negative carrier (35mm to 4x5), three single block mounted condensers, heat absorbing filter, distortion control, enlarging factor indicator, and Schneider/Durst Componon f/5.6 150mm lens, **$1195**

SIMMON AUTOMEGA B7 AND OMEGA B8 ENLARGERS feature rigid inclined-girder construction and smooth rack-and-pinion counterbalanced movement. For negatives from 35mm to 2¼x3¼″, lenses from 2 to 3½″. Enlargers rotate 180° for projection on floor. Available with interchangeable condenser lamphouses or Omegalite. Condenser lamphouse has standard double condensers for use with 3½″ lenses; provides maximum illumination with shorter focal lengths by addition of supplementary condenser. Uses #111A 75-watt opal lamp. Omegalite features high light output and even illumination; reduces need for spotting by suppressing dust, scratches, etc. Uses 8¼″ GE Circline fluorescent tube for instant starts. AUTOMEGA B7 features completely automatic focusing, by means of matching lenses and interchangeable focusing tracks; accommodates 3 tracks. Magnifications up to 15 times on baseboard (varies with lens focal length). Baseboard, 18x26″. Overall height: with Omegalite, 47″; with condenser lamphouse, 48″ B7, with condenser lamphouse less lens, **$191.50;** with colorhead, **$197.50;** with Omegalite, less lens, **$207.** OMEGA B8 has same features and accepts same accessories as B7, but focuses manually. Has twist-of-wrist focusing for fast, precise operation. Magnifications up to 14 times on baseboard (varies with lens focal length). Baseboard, 18x26″. Overall height: with Omegalite, 43″; with condenser lamphouse, 44″. B8, with condenser lamphouse, less lens, **$167.50;** with colored, **173.50;** with Omegalite, less lens, **$183**

KODAK ELIPTON COLOR ENLARGER (4x5 Autofocus) is a high-intensity, elliptoidal unit providing either diffused or specular illumination with only a bulb change. Magnification range is 1½″ diameters from 4x5 negative, 1½-6½ diameters from 3¼x4¼ or smaller negative. **LENS:** 135mm f/4.5 Ektanon Enlarging. Easel will accommodate up to 16x20 sheet. Parallelogram mounting of enlarger head with autofocus cam positions lens. 6x6 filter drawer above negative. Forced air cooling system restricts temperature rise at negative to maximum of 15° above room temperature. May be attached to a special wall or table support over roll paper holder.

Supplied with base for use with sheet paper easel. Double locking system for enlarger head assures rigidity. Two simple screw adjustments permit focusing of individual lenses, further adjustments for various easel thicknesses. **Model 1,** for easel mounting **$600; Model 1W,** for wall mounting, **$600**

KODAK LENS ADAPTER, 100mm (for Kodak Elipton Enlarger)—For use when magnification greater than 6½ times is desired with the Kodak Elipton Color Enlarger (4x5 Auto-Focus, Model 1 or 1W). Manual focus only. **$52**

KODAK 2x2 TRANSPARENCY HOLDER (for Kodak Elipton Enlarger)—For holding 2x2 cardboard Ready-Mounts or glass-mounted transparencies when making color enlargements with the Kodak Elipton Colar Enlarger (4x5 Auto-Focus, Model 1 and 1W). Manual focus only. **$25**

up to 5x7″

AUTOMEGA E-5 ENLARGER takes 35mm to 5x7″ negatives. Enlarging Ratios: up to 17.7x for 35mm negatives with 2″ lens; up to 5¼x for 4x5″ negatives with 5¼″ lens; 4x for 5x7″ with 6⅜″ lens; to 3x for 5x7″ negatives with 7½″ lens. Giant prints obtained by turning projection in a semicircle and projecting onto floor. Dimensions: 18x34″ baseboard; height from table to top of lamphouse, 50″. Features: "Floating Action" autofocusing tracks: interchangeable lenses; rigid cantilever construction; finger touch control; unobstructed baseboards; universal glass filmholder. With Omegalite Lamphouse, less lens, **$389.25.** With condenser lamphouse, less lens, **$649.25**

BESELER 57MB accepts negatives from 2¼″ sq. to 5x7″. Cold cathode grid lamp for illumination, gives even, slightly diffused light, 4,200°K., guaranteed for 10,000 hours. Aluminum and steel triangular truss reinforced; electric motor to drive lamphouse assembly up and down; tilting lens stage; 15″ bellows extension; lateral positioning; lens stage, lateral movement and negative stage lock for repetitive printing; overall height with lamphouse in top position, 52½″; plywood baseboard, 25½x28½″. Less lens, with one Beslite 57 Cold Cathode Gridlite, one 5x7 universal glass negative carrier, one center-drilled 4x4″ lensboard, one 2⅜″ sq. plastic safety filter, **$274.75** in East, **$283.75** in West. **BESELER 57MB-X** same as above but with struts in rear for clear access across the baseboard **$299** and **$308.** Lenses, Copy Lights, Lensboards, and most of other accessories same as for 45 series.

DURST LABORATOR L-138S is a professional enlarger for negatives from 35 mm to 5x7″. For the maximum degree of vertical enlargement, baseboard can be lowered to foot of column; for giant enlargements head can be swung horizontally. Lens turret accommodates three lenses from 50mm to 240mm focal length. Interchangeable condensers, color filter drawer, double extension bellows. Quick centering of opal or high pressure mercury vapor lamps. Focusing negative carrier supplied with 4 film size masks. Complete distortion control. May be used with either Lacoli cold light unit or AGFA color head. 5 reference scales facilitate precise work. Less lenses and condensers, **$799.** With 2-240mm condensers, less lenses, **$898.** With condensers and Schneider Componar f/4.5, 105mm lens, **$930.95.** 2″ to 10″ Schneider lenses available.

ELWOOD 5x7″ ENLARGERS. For all negatives from 35mm to 5x7″. Negative carrier may be inserted from either side for centering. Cast aluminum construction. Negative carriers for all sizes available. **STUDIO S-2** enlarger, with 100-watt lamp, 4x5″ or 5x7″ negative carrier, extension cord. Less lens but with 12″ vacuum plated reflector, **$87. SP-25** enlarger handles all negatives from 35mm to 5x7″. It enlarges or reduces, projects vertically or horizontally. Extra rigid, main slide is made of solid cold rolled steel. The body is cast aluminum, milled for perfect alignment. With vacuum plated reflector, less lens, **$195.** With 10″ double mounted condensers, less lens, **$339.** With 8″ condensers, **$249.** With 6½″ condensers, **$198. AUTO-FOCUS** enlarger with 16″ silvered reflector and Wollensak 6⅜″ f/4.5 coated lens and paper holder, **$585.** This unit is also available with 10″ double condensing lenses. **$735**

KODAK COMPOSING LENSBOARD FOR KODAK 5 X 7 AUTO-FOCUS ENLARGER (Models B through F) is an attachment which makes composition easier with table-top paper easels or roll paper easels. The lensboard permits limited vertical and horizontal movement of the lens on a lateral plane.

KODAK ELIPTON AUTO-FOCUS ENLARGER, MODEL F (5x7)—Similar to popular Kodak Auto-Focus Enlarger, Model E, except that Elipton Lamphouse is supplied instead of conventional source. Lamphouse has forced air cooling system. Removable filter drawer accepts 8x10 filters. Supplied with 300-watt and No. 211 lamps. **$700**

KODAK ELIPTON LAMPHOUSE, MODEL 1 (for Kodak Auto-Focus Enlarger, 5x7) —In kit form for installation on Kodak Auto-Focus Enlargers, Models A through E. The Lamphouse covers a 5x7 negative and has many of the same features as Kodak Elipton Color Enlarger (4x5 Auto-Focus, Model 1). Supplied with 300-watt and No. 211 lamps. Filter drawer takes 8x10 filters. **$400**

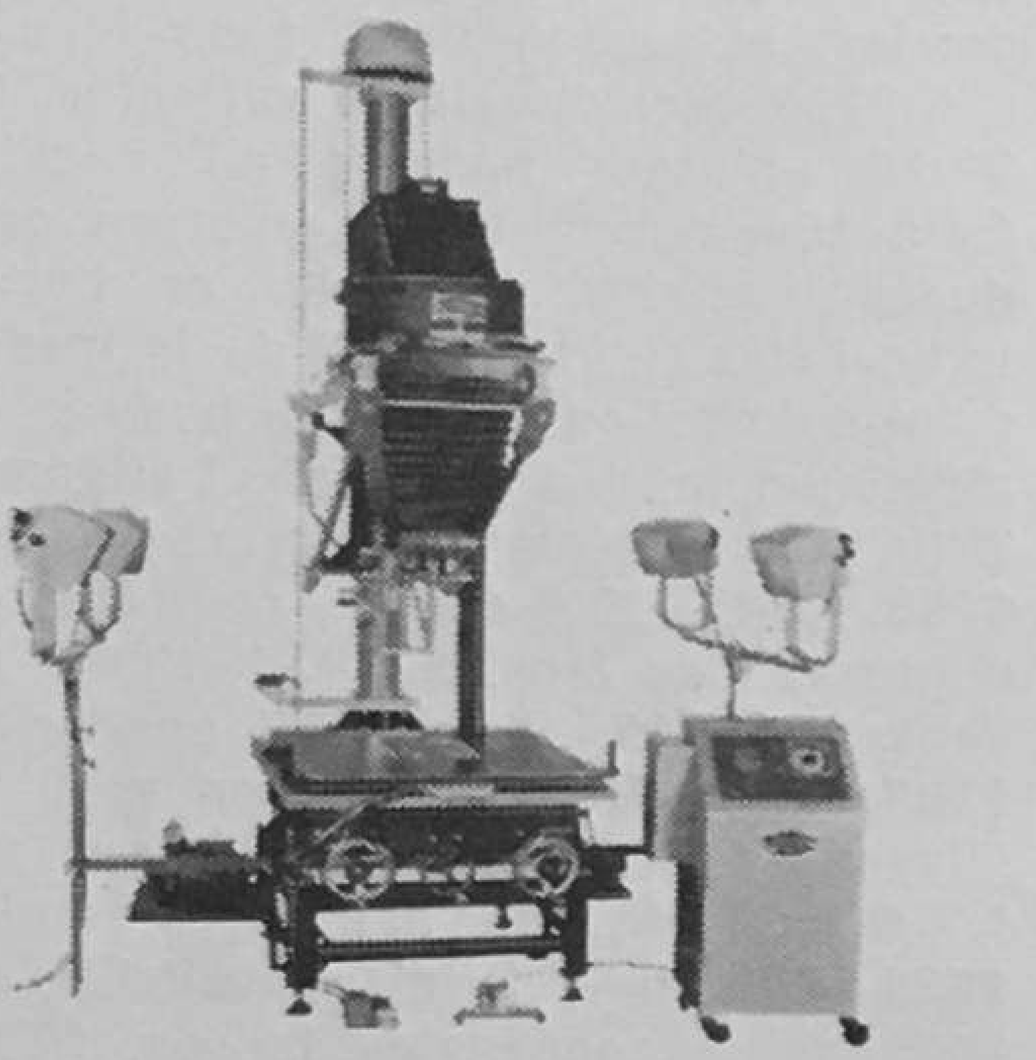
SIMMON AUTOMEGA E-5 features completely automatic focusing with lenses from 2″ to 7½″. Each lens is matched to its own autofocusing track at the factory (owner can send own lens for matching). Takes 35mm to 5x7″ negatives, with magnification range of 17½ times for 35mm (or smaller) negatives with 2″ lens, 5½ times for 4x5″ with 5¼″ lens, and 3 times for 5x7″ with 7½″ lens. Inclined-girder construction for rigidity & stability. Uses Omegalite illumination system, with 11½″ GE Circline fluorescent tube; provides instant starts, even illumination, con-

continued on next page

sistent exposures, sharp definition; reduces need for spotting; suppresses dust, dirt, other negative defects. Accepts D-2 condenser lamphouse for use with 35mm to 4x5″ negatives. Condenser system uses interchangeable lenses and matching condensers for short, even exposures and maximum magnifications. Useful for all color processes, including Printon. Accommodates standard E-5 filmholders (4x5″ and smaller). Automega E-5 with Omegalite lamphouse, 5x7″ glass filmholder, red filter, less lens, lensmount and autofocusing track **$389.25.** With 5x7″ Lamphouse with 9½″ dia. condensers, **$649.25**

up to 8x10″

CAESAR-SALTZMAN ENLARGING, REDUCING AND COPYING CAMERA is a combination copying and enlarging camera with positive registration of the film holder to the camera with registration pins in the holder. Film area is 11x14″ with 8x10″ projection area. Camera head of this unit can be used for making direct screen separations up to 10x12″, continuous tone separations up to 8x10., and masks from reflected copy or transparencies in register.



Screen positives or negatives up to 5X magnifications can be made on the base of the machine from an 8x10″ image with a 12″ lens. Direct separations from transparencies can also be made on the base of the machine. For 5X enlargements using the 12″ lens, a ceiling height of 140″ is required. The unit measures 62″ deep and 36″ wide. However, when the copy lights are used, additional 24″ is required on each side. **BASIC MACHINE** consists of the following standard parts: 36x40″ Baseboard, Pair of 14″ condensers, Lenslight, Shutter with time delay, Filter drawer above lens, Bumpers, Footswitch; also 12″ Goerz Artar process lens, Registration of film holder to camera, 11x14″ Film holder with adjustable peg bar (8x10 projection): also Counters and lights for camera and lens motion, counter for lamp positioning, Xenon power supply with Microflex timer and light head, Socket with #302 enlarging lamp, **$7,500;** Four Xenon copylights to work from above source, **$920;** Vacuum easel & pump, **$1,539;** Punches, **$425** to **$700**

ELWOOD 8x10″ ENLARGERS for negatives from 3¼x4¼″ to 8x10″. 200-watt lamp. Masking slide screens out undesirable edge light around negative. The **COMMERCIAL C-2** enlarger is sold without base and is intended for table top or bench mounting. A cast base with metal top is available separately. (Can also be furnished with brackets for aerial roll film.) **$441.** With 72″ main slide in place of 48″ slide, **$480.** Cast base and baseboard, **$115.35.** The **AUTO-FOCUS** enlarger in this size works automatically from 1¼ to 5 diameters. Equipped with large 20″ silvered reflector. Large hand-wheel for raising and lowering. Auto-focus mechanism may be disconnected. With 10″ f/4.5 enlarging lens, **$895. ACCESSORIES:** Tilting Table, **$21.** Recessed Lensboard, **$7.50.** Lens Extension, **$14.25.** Negative Carriers: 35mm, **$15;** 3¼x4¼″, 4x5″, 5x7″, each, **$9**

DURST V-184 ENLARGER . . . Accepts all negatives and transparencies from 35mm to 8x10″, with provision for either a color step wedge or grey scale. Masking blades built into enlarger enable proper negative masking. Square negative carrier accepts horizontal or vertical negative positions. Will take 10x10″ aerial film. Complete distortion control assured by tilting baseboard, lamphousing, negative stage and lens stage. Ideal for color separation work, contact and enlarged screening, photomurals and copying, it also does all standard B&W and Color enlarging, contact printing or reducing. Easy tilting enlarger head for horizontal wall projection. Even illumination through interchangeable condensers and 3-way micrometric lamp centering device. Perfectly balanced lamphousing easily raised and lowered by means of smooth operating handwheel. All metal body has heavy duty base casting with 4 individual adjustable, locking casters. Double column girder assembly guarantees vibration-free results. Lamphouse filter drawer takes up to 6-12x12″ filters. Complete line of lenses and accessories available. 300 to 1000W lamps may be used with accessory exhaust cooling system for the larger lamps. Scales for ease and accuracy of all adjustments. With 12″ lens in interchangeable panel, under **$3,000**

ENLARGING ACCESSORIES

easels, adjustable

ARKAY EASY EASEL permits insertion of paper with the flick of a lever. Egg shell white focusing surface. Features depressable platen with paper feed from right-hand edge. No heavy borders to set and re-set. Perfect for production enlarging work. Two masks; automatic border compensation; cut-away platen for paper insertion. All-steel 5x7″, **$7.75;** 11x14″, **$10.75**

DURST "243" ENLARGING EASEL is professional easel designed to relieve the operator of much manual labor when enlarging on different paper sizes. Maximum paper size 10″x12″. Independently adjustable masks obtain desired margin width on enlargement. Angular paper guide facilitates convenient positioning of enlarging paper. **$59.50**

KODAK ENLARGING EASEL, 17x20 (for use with Kodak Auto-Focus Enlargers and other vertical enlargers)—Spring-enlarged arms are adjustable for white margins from ½ to 2½ inches on any size prints up to 17x20. Rules on two sides of holder allow it to be set easily and accurately. **$175**

SAUNDERS AUTOMATIC COLORPRINT EASEL, although suitable for black and white, was particularly developed for the new coloprint processes, such as Ektacolor paper, Ektachrome paper and Printon. Greatly facilitates the making of filter pack and exposure tests. By using masks furnished with the outfit, from one to eight prints on a sheet of 8x10″ paper can be automatically made in total darkness. Accessory focusing cups available for combining different size prints or different pictures on one 8x10″ sheet. Directions included for making flashing masks to produce white borders on Ektachrome paper and Printon. Carrier of easel is 1″ high to fit autofocus as well as regular enlargers. Non-skid rubber base. Ektacolor paper outfit, makes eight 2½x3½″ (wallet size), four 3½x5″, two 5x7″, or one 8x10″ size. Complete, **$67.50.** W/hinged focusing masks, **$97.50**

SAUNDERS LIFETIME 14 x 17″ ENLARGING EASEL has 4 adjustable, stainless steel blades, finished black, assembled in basket-weave, to hold paper flat. Easel remains in the center of the baseboard, paper is placed in center of easel. No jiggling easel on and off baseboard. Blades cannot be accidentally moved. Click stop holds easel open for easy paper insertion. Accurate calibrating system provides borders from a hairline up. 3 locktight paper slots visible in darkroom light, accommodate all standard sizes. Special rubber sheet on bottom eliminates sliding even on glass. Focal yellow base provides perfect contrast for focusing yet absorbs blue rays and prevents fog and flare resulting from reflection of light through paper backing. Weighs 8½ lbs.; all metal, rustproof. With black wrinkle base, **$32.50;** with focal yellow base, **$35;** with black wrinkle autofocus base (1″ high and fits all autofocus enlargers), **$40;** with focal yellow autofocus base, **$42.50. SAUNDERS BORD-R-LESS 11 x 14″ EASEL** is adjustable for every size print from postage stamp to 11 x 14. Paper is held flat and in perfect register, permitting edge-to-edge exposure. Non-skid rubber base; focal yellow color for focusing. Fits both autofocus and other enlargers. **$14.85**

SIMMON OMEGA 11x14 EASEL for all enlargers is precision engineered in every detail. One-inch high base is essential for auto-focusing alignment; automatic dual paper grip guarantees paper alignment after loading; dual positive paper stop assures fast, simple insertion of paper; visible margin control and see-thru window on masking bands provide accurate alignment check. Slip-proof base prevents easel from moving on smooth baseboard; special bracket keeps frame in raised position. Tilting device for correction and distortion available as accessory. EASEL, **$62.50**

VANBILT ROLL PAPER EASEL for automatic printing of B & W or Color enlargements on roll paper up to 11″ wide. Max. image size, 9½x10½″. Designed to work with all commercial type enlargers, the VANBILT offers roll paper enlarging economy. Ideal for quantity or short runs, **$1,295**

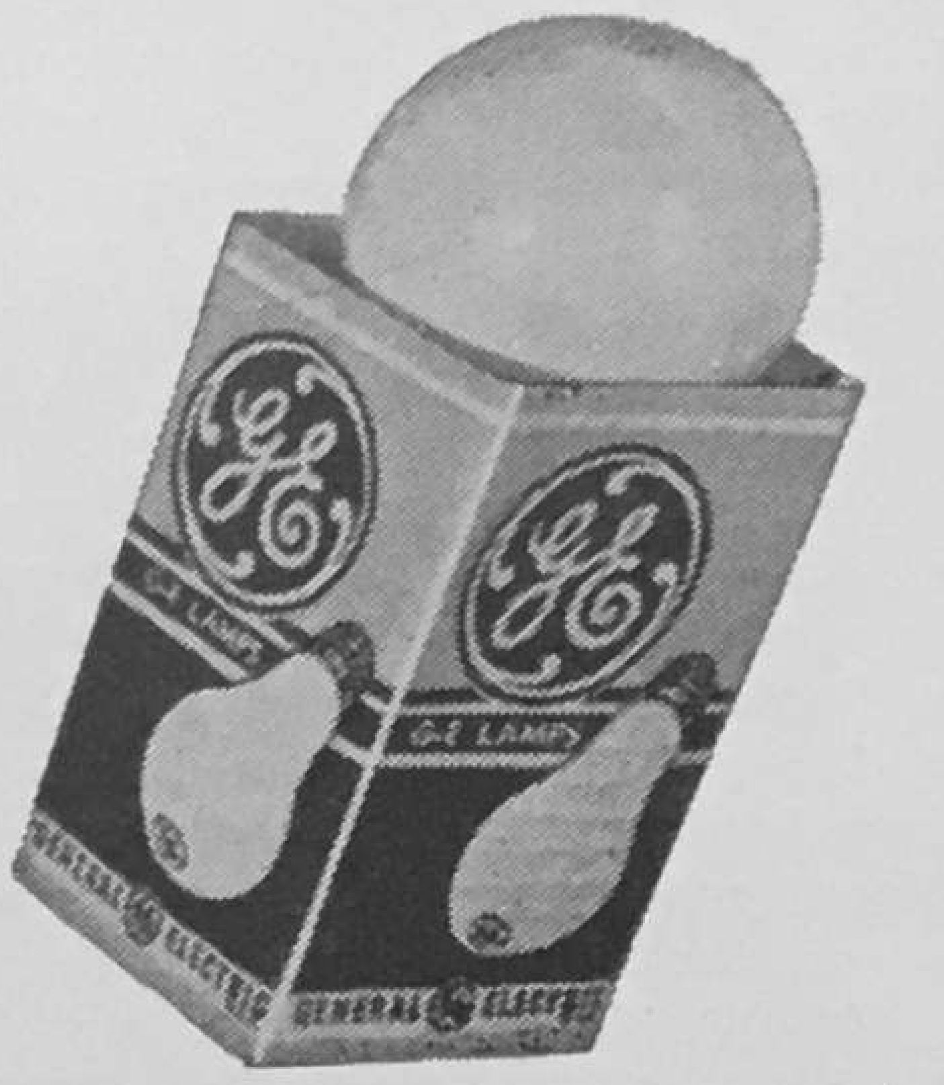
easels, fixed frame

SAUNDERS SING-L-SIZE EASEL takes 8 x 10″ sheets only. Heavy steel base. Masking bars adjust automatically to provide 3/16″ border on standard paper. Non-skid rubber bottom. Fast-working. **$7.50. 5-in-1 5 x 7″ Easel** has all the features of Sing-L-Size plus adjustabar and fibre masks. Provides 3/16″ border on wallet size. 3½x5, 4x5, 5x5 and 5x7″ prints. **$7.95. 16x20″ Special Sing-L-Size Easel** for the pictorialist and salon exhibitor, provides smallest borders on 16x20″ paper, non-skid yellow rubber base, **$25;** Black base, **$22.50**

SPEED-EZ-ELS are versatile, compact all metal spot-welded easels that are no larger than the paper itself. Paper is inserted at either end, eliminating cumbersome lifting and adjusting of border clamps. Semi-matte finish reflects image without glare. Increases composition possibilities, enlarges any portion of negative and angle prints from straight negatives. Thumbholes permit easy centering of paper at exposure. Can be easily taped into position for exposure. Six popular sizes, 2½ x 3½″ to 11 x 14″, **$1.65** to **$5.10.** 20 special sizes also available from 3 x 3″ to 16 x 20″, **$3.10** to **$12.95**

lamps, enlarger

G-E PHOTOGRAPHIC ENLARGER LAMPS are available in popular sizes,including 3-way lamp (requires special switch & socket). Provide excellent diffusion, even light distribution. 115-125 volts. For prices, see chart.



SYLVANIA SUPER-N-LARGER LAMPS feature correct light distribution and uniform diffusion. Available in popular sizes, and in special fluorescent-coated model for enlargers with reflecting type domes. For prices, see chart.

SYLVANIA
LIGHT BULBS
Best Light in Sight

WESTINGHOUSE ENLARGER LAMPS are available in popular sizes. Provide correct light distribution and uniform diffusion. 115-125 volts.

enlarging light

ARISTO COLD GRIDLITE converts enlarger from ordinary tungsten light to cold light operation. Eliminates heat, "hotspots," reduces dust spots and similar negative defects. Less retouching is required; tonal quality is improved. Speedier printing; instant start and stop without flickering; long life; cuts down on required headroom. Quickly interchanged with old lamphouse. **THE MODEL B.** Features provide even light distribution, cool operation and speed in photographic enlarging, making it possible to obtain prints of uniform density and quality. No warmup period. For standard enlargers 4x5″ to 12x12″, **$49.75** to **$164.75**

GRAFLARGER BACK, Easy-to-use, economical, cool-light accessory converts Graphic camera into a top-flight enlarger. For Graflok, Graflex and Graphic backs. Self-contained glassless negative carrier. Instant-starting cold-light, heavy duty transformer; can be used with foot-switch. Choice of 2¼x3¼″ or 4x5″ **$39.75.** Graflarger stand **$21.75**

THE SPECTRO-CON is a cold cathode enlarging light source specifically designed for work with Eastman Type C materials and completely eliminates the need for filters. Color balance control is achieved by setting the three dials, each of which controls the intensity of the Red, Green and Blue lamps. Because no filters are used between the lens and the projected image optimum sharpness is assured. Available in 4x5″, 5x7″ and 8x10″. From **$520** to **$950**

meters, enlarging

PHOTO-GENIE ELECTRONIC ENLARGEMENT CONTROL does away with inaccurate visual comparison of negative density. A reading is first made of the projected negative image on the Photo-Genie Cell. This information is related to the speed of the photographic paper and is simultaneously relayed to the "Magic Lamp" which signals the proper diaphragm aperture.

PHOTO-GENIE

Photo-Genie can also determine effective negative density range for selection of proper projection paper; select the lens aperture which will place range of negative within scale of paper; correlate filter exposure with variable contrast paper; determine proper balance for montages; indicate dodging and burning-in time; assist in color printing. Dimensions, 3¼x6x1⅛ in. Weight approximately 7 oz. Operates on AC only. **$15.95**

LEKTRA DENSI-LUX ENLARGING EXPOSURE METER MODEL PTM-7 is easy to use, easy to read and engineered for accuracy. Specifically designed for color —it may be used for black and white. Exposure time is indicated in seconds on the multi-range meter. Dodging—both burning and hold back—can readily be determined. Coarse and fine controls for setting and resetting desired standards for various speed emulsions. Optical head embodies the very latest developments of light collection and measurement. Light enters aperture and is confined to an integrating sphere which completely diffuses it and permits a tube to read the light from a side window in the sphere. Shutter protects tube from strong ambient light. The normally closed shutter may be operated either from the panel or from a momentary contact button on the optical head. When the shutter is open the meter is automatically put into the circuit and is illuminated. **$270**

LEKTRA DENSI-TIMER is combination Densitometer and Timer. Instead of metering time, it measures and meters light. The two dials at top of panel are settings for speeds of various papers. Can be focused on a spot and permits the proper quantity of light to pass thru the enlarger to make a perfect enlargement regardless of density of negative. Foot switch optional for focusing and/or starting. Burning and dodging made easy. Safe-light outlet. Voltage regulated. 115VAC, 19 lbs., **Model PTM-4, $327**

See Pages 50 & 51
for other Exposure
Instruments

foot switches

KRISER FOOT SWITCH controls electric current during enlarging or contact printing. For foot or knee control. Foot start for Lektra timers or Densi-timer. Model 42, **$9;** Model 42A, with series plug for attachment to enlarger, **$9.60**

ROBERTSON ELECTRIC FOOT SWITCH, wired to operate pump and motor unit on Robertson Vacuum Film Holder, frees operator's hands and makes loading of film and contact screens easier, **$22**

TIME-O-LITE FS-30 FOOT SWITCH is heavy duty, snap-action type to control safelites, printers, enlargers or any equipment up to 1500W. Three power receptacles are rated at 1500W each. Black receptacles control equipment, red controls safelite. Step on pedal, safelite goes out—equipment on, take foot off, equipment goes off—safelite on. Pedal has built-in neon pilot light for locating in dark—"Just step on the light". Rugged, non-skid construction, 115 or 220 VAC, **$15.50**

TIME-O-LITE FS-59 FOOT SWITCH is small, compact unit for use with either the Professional P-59 Timer, or for direct attachment to enlarger. Included with the FS-59 is a special series adapter plug enabling the footswitch to be used as a series switch. Load rating is 5 amperes, U.L. approved. Non-skid rubber base. Equipped with heavy-duty 10′ line cord. **$7.95**

YORK FOOT SWITCH has skid-proof rubber base. Will cling to floor, remain upright at all times. Simply plug other equipment into series plug tap attached to foot switch cord; turn on or off with foot. 7-ft. rubber cord; 15-amperes, 125-volt AC. **$5.95**

focusing aids

BAUSCH & LOMB ENLARGING FOCUSING MAGNIFIER assures professional quality projection prints without waste of time and materials. An exclusive B&L design provides critical focus for even the densest negatives with ease and speed. Reflector and grid principle, perfected in the field of photomicrography, makes use of the aerial image. No ground glass screen is used. Enlarger is focused accurately in seconds. Accuracy is achieved by focusing on the grain of the negative rather than on the details in the picture. Extremely light weight and durable, made of pastel green Tenite for maximum visibility in the darkroom. **$6.50**

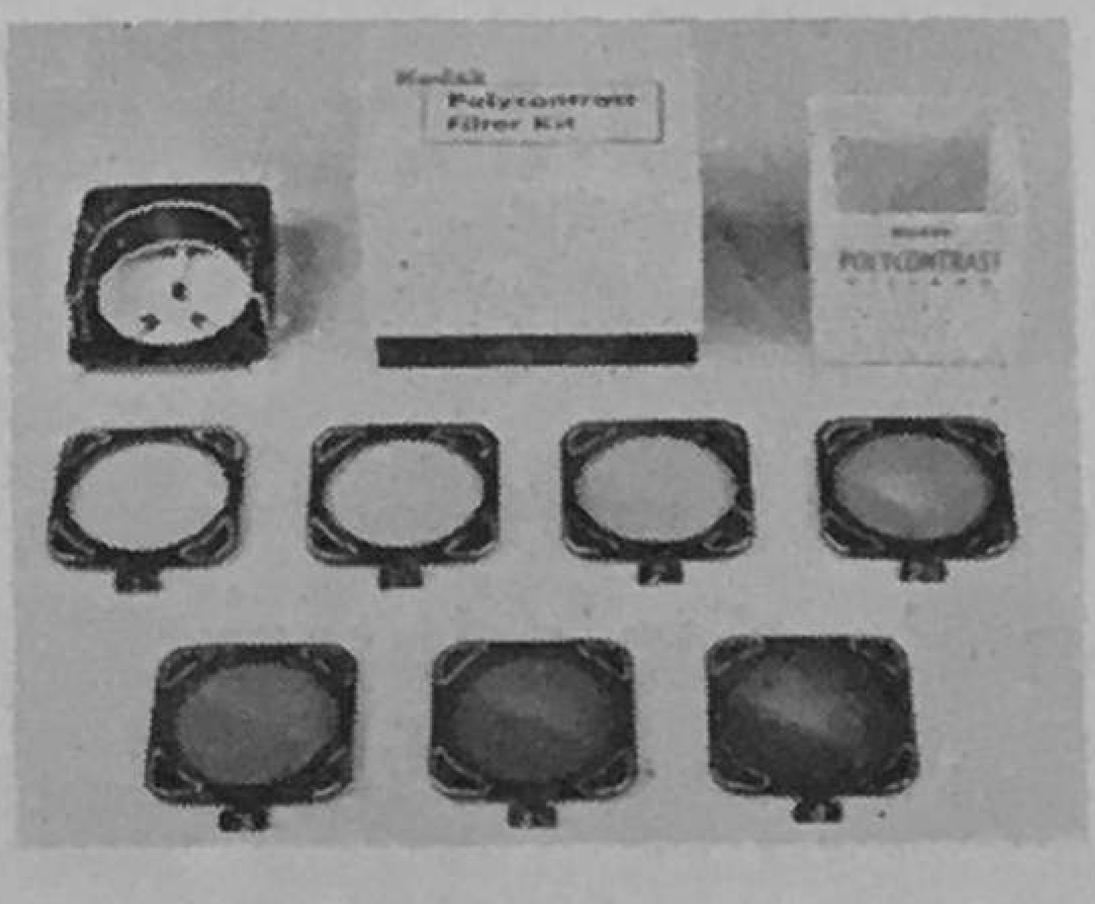
FOCUS 20/20 is a transparent plastic sheet that provides quick and accurate focusing for projectors and enlargers. Patterns are positive for more light transmissions. Scaled in inches, centimeters and millimeters. Inserted into negative carrier as is or as slide. 35mm and Bantam size, **35¢;** 2x2, 2¼x2¼ and 2¼x3¼, **50¢;** 3¼x4 and 3¼x4¼, **75¢;** 4x5, **$1;** 5x7, **$1.25**

paper safe

BRUMBERGER PHOTO-PAPER SAFETY CHEST. All steel, light-tight. Disappearing door opens easily, closes automatically. #1810 chest has three 8x 10″ and four 5x7″ shelves. Each holds 1 gross of DW paper, **$14.95.** #1814 is for 11x14″ papers. Four top shelves hold 1 gross each of DW paper. Plus extra large bottom shelf (handy for storing film, paper, negatives, etc.) **$29.95**

variable contrast paper devices

KODAK POLYCONTRAST FILTER KIT (MODEL A)—With this kit, the contrast of Kodak Polycontrast Paper can be varied over a wide range in half-step intervals from No. 1 through No. 4 contrasts. The kit consists of seven filters, a filter holder, and a filter storage box, **$13.75**



KODAK POLYCONTRAST ACETATE FILTERS, PC1, PC1½, PC2, PC2½, PC3, P3½, PC4—For light source correction, primarily on contact printers. Transmission qualities are similar to filters supplied in Kodak Polycontrast Filter Kit (Model A). Designed for use in enlarger lamphouse or over contact printing lights for contrast control in Polycontrast Paper. Not for use in optical systems. 11x14″. Per filter, **$5.75**

KODAK POLYCONTRAST GELATIN FILTER, PC1, PC1½, PC2, PC2½, PC3, PC3½, PC4—For image-forming systems in projection printers where Kodak Polycontrast Acetate Filters cannot be used. Designed for extremely critical work. Per filter: 2″ square, **60¢;** 3″ square, **$1;** 4″ square, **$2.80**

miscellaneous enlarging accessories

APAC AUTOMATIC FOTO-IDENT automatically prints a pre-selected code (numbers and letters) on the border as an enlargement is made. Can be used with APAC ARP Easel or with cut paper and any enlarger. With timer, **$176**

APAC AUTOMATIC ROLL PAPER EASELS to convert enlarger into automatic rapid-projection printer: Model 10 (to 8x10″) **$1,696;** Model 14-C (to 11x14″). **$2896.** Model 14-CE, Economy model, **$2696;** Model 14-CPD, Package deal, **$2885;** Model 14-CD, **$3296;** Model 4-L, (Cluster lens), **$650** to **$685**

CONDIT PRECISION NEGATIVE CARRIER consists of 2 parts for all enlargers except Saltzman; the base with lock which fastens Into enlarger, and the negative carrier. The carrier locks firmly to the base and has adjustable registration pins. Punched registered separations can be projected in exact register. Enlarger should be braced to ensure rigidity. 4x5, Omega, **$191;** 5x7, Durst, **$213;** 8x10, Elwood, **$223;** 8x10 Saltzman, **$236**

FOTOGROUNDS are background negatives used for printing in props and scenes when contact printing or enlarging. Simple to use. 15 different backgrounds, including churches, windows, scenics, clouds. 3x5″, 4x5″, **$1;** 4x6″, **$1.25;** 5x7″, **$1.50;** 8x10″, **$3**

LEKTRA FLIP-TIP FILTER HEAD offers filters at your finger tips. No hunting for filters, change them in the dark. Avoids scratches, dust, finger prints, tears, etc. Makes color head out of black & white enlarger. Fits between light source and condensers. Easily, quickly installed without tools. STANDARD MODEL consists of 8 filters, 4 on each side. Normal filter complement is .05, .10, .20, .40 density filters of yellow and the same in magenta. **MODEL FH-1** for Omega D-2 and D-3. **MODEL FH-2** for Beseler 4x5. Either, **$72.** DELUXE WITH ANSCO FILTERS consists of 14 Ansco filters, 7 on each side. Normal filter complement is .025, .05, .10, .20, .30, .40 and .50 density filters of yellow and the same in magenta. **MODEL FH-1A** for Omega D-2 and D-3, **$108; MODEL FH-2A** for Beseler 4x5, **$102.** DELUXE WITH KODAK FILTERS consists of 12 Kodak C.P. filters, except for the .025 filter, 6 on each side. Normal filter complement is .025, .05, .10, .20, .40 and .80 density filters of yellow and the same in magenta. The .025 filter is an Ansco filter and the .80 filter is made up of two .40 Kodak filters in one holder. Also includes 2B filter. **MODEL FH-1K** for Omega D-2 and D-3, **$114; MODEL FH-2K** for the Beseler 4x5, **$108**

ENLARGER LAMPS

Type	Base	Watts	Bulb Shape	Average Life Hours	Approx. Initial Lumens	Approx. Color Temp.	Price Each
Ph/111	S.C. Bay.	75	S-11	25	1120	2900° K.	$1.00
Ph/111A	S.C. Bay.	75	S-11	25	1120	2900° K.	1.00
Ph/211	Med.	75	A-21	100	1200	2975° K.	.60
212	Med.	150	A-21	100	2850	3000° K.	.65
213	Med.	250	A-21	3	7000	3400° K.	.70
300	Med.	150	PS-30	100	3000	3075° K.	1.65
300C	Med.	300	A-21	20	7650	3200° K.	1.75
301	Med.	300	PS-30	100	6475	3125° K.	1.75
302	Med.	500	PS-30	100	11000	3175° K.	1.75

KEITH COLE PAPER TRANSPORT. Requires less than 2x3′ of space. Uses roll paper of any size, up to and including 11″x250′. equipped with masks from 1¾-2½″ to 11x20″. Easy to load and unload; rugged construction—completely mechanical; can be used with any enlarger. Fool-proof paper advance. Easily moved on ball bearings, in any direction, for accurate cropping. Uniformity of density, contrast and color assured. Price on request.

HYRAN MODEL-810 ROLL EASEL features motor-driven advance with push-button operation. Proven drive clutch assures accuracy of advance. Masks are relieved and cannot exert pressure on sensitized material, thus eliminating possibility of abrasions. Can be operated on base board of your enlarger. Automatic wind-up on spool ready for continuous processing. Includes 8x10 mask for 8″ material or 10x8 mask for 10″ material. 3/16″ Borders. Holds 500′ DW or 1000′ SW paper, widths 2½ to 10″. **$1,095**

KRISER ROLL PAPER EASEL for projection printing. **MARK II** holds 500′ double weight or 1000′ single weight black and white paper. Max. width of roll 5″. Min. width 2½″. Roller spindle easily adjustable to all width papers. The centerline of the easel is always the centerline of the picture. Print sizes 5x7, 4x5, 3½x5, 4x4, 4x6, 4¼x4¼, 3½x2½, etc. Standard borders are ⅛″. Other borders available on order, **$300. MARK III** holds 250′ (standard roll) Ektacolor (Type C) or Type "R" or Printon, **$342**

PICTROL is an attachment that converts enlarger or camera lens into a variable, soft-focus objective. Improves tonal quality, reduces grain, eliminates retouching. Does not affect color balance when making color prints. No exposure increase. Fits all lenses up to a diameter of 1 15/16″. **$4.95**

ZIPPER GLASSLESS NEGATIVE HOLDER holds negative tight as a drum without glass. Holds negative flat, takes wet or dry negatives and saves spotting costs. Easy and fast to use, it eliminates four glass surfaces. Light weight, precision built. Made for any size film. For Eastman Auto Focus, Omega or Beseler 4x5, **$51**; Eastman 5x7, **$51**; Elwood 4x5 or 5x7, **$58.20**; Omega or Beseler 5x7, **$60**

PRINTERS

contact

AIREQUIPT JUNIOR PRINTER is compact, sturdy contact printer for use with negatives from 35mm through 4x5″ and postcard size. Provides accurate margins to ⅝″, automatic 3/16″ margins. Positive paper stop; stainless steel sliding masks; top and left-hand margins set simultaneously. Special diffusion glass eliminates "hot-spots"; felt covered split platen; cover opens and closes by fingertip pressure; automatic switch. All-steel construction. **$12.95**

BRUMBERGER 5x7″ DELUXE CONTACT PRINTER with adjustments for smaller sizes. Hinged, split cover. Opal glass or diffused light. Finger-tip platen release controls on-off switch. Sponge rubber pads on platen. With 7½-watt red bulb, 6′ cord. Steel housing. **$29.95**

PAKO NO. 2 PROFESSIONAL PRINTER is low cost, high quality printer that assures accuracy, flexibility, speed and quality, necessary in acquiring the best possible prints. Two hinged shelves provide ample working area at each side. Platen is constructed for dependable, firm contact between negative and printing paper. "Easylock" handle locks platen under pressure assuring maximum contact. At same time printing lights are automatically switched on, when disengaged, printing lights turn off. Entire printing head with platen locked in contact can be raised to vertical position in front of operator. Local printing with a spotlight is then easily handled. Ground diffusion glass can be placed at any one of three selective heights for regulating volume of printing light. Hinged printing head permits instant access to diffusion screen and lamps. Adjustable print guides facilitate feeding and register. One pilot and six printing sockets provided for speed and even distribution of light. 12x15″ printing area. Mahogany finish printing head, cabinet is all metal painted satin black. Area needed (shelves down), 22″Lx36″Hx21″W, **$295**

TIME-O-LITE CONTACT PRINTERS have built-in automatic time control; set time interval; pull down platen; synchronous-driven motor turns on lights, then turns them off at end of interval. Time-O-Lite resets itself. Timing range from 0 to 60 seconds. Adjustable paper guides; adjustable margins to 8x10″; spring-steel masking strips; sponge-rubber platen; uniform light distribution; all-steel construction. One-hand operation. 110-volt, 60-cycle AC. Model 80, with adjustable diffusing glass to compensate dense or spotty negative areas and built-in light intensity control, for prints up to 8x10″, **$195**

continuous roll contact printers

APAC AUTOMATIC ROLL PAPER CONTACT PRINTER is designed for high-speed production of contact prints up to 8½ x11″ in size, on single weight rolls up to 11″ wide. With .3-second exposures, it will make more than 3,000 8x10″ prints an hour. **Model 11CP**, up to 8½x11″, **$2,296**

PHOTO DEVICES CONTINUOUS ROLL CONTACT PRINTER features new film drive which utilizes constant tension take-up on positive and negative spindles; is completely smooth regardless of footage rewound, uses no gears or sprockets. Takes 16, 35, and 70mm film, up to 1000-ft. Prints at 90-ft. per min. High intensity point light source adjustable printing slot; antihalation drum, light-proof magazine. Uses spools or cores. PD301, **$1800.** PD301X with printing speed variable from 10-90-ft. per min., point source and mercury vapor illumination, **$2750**

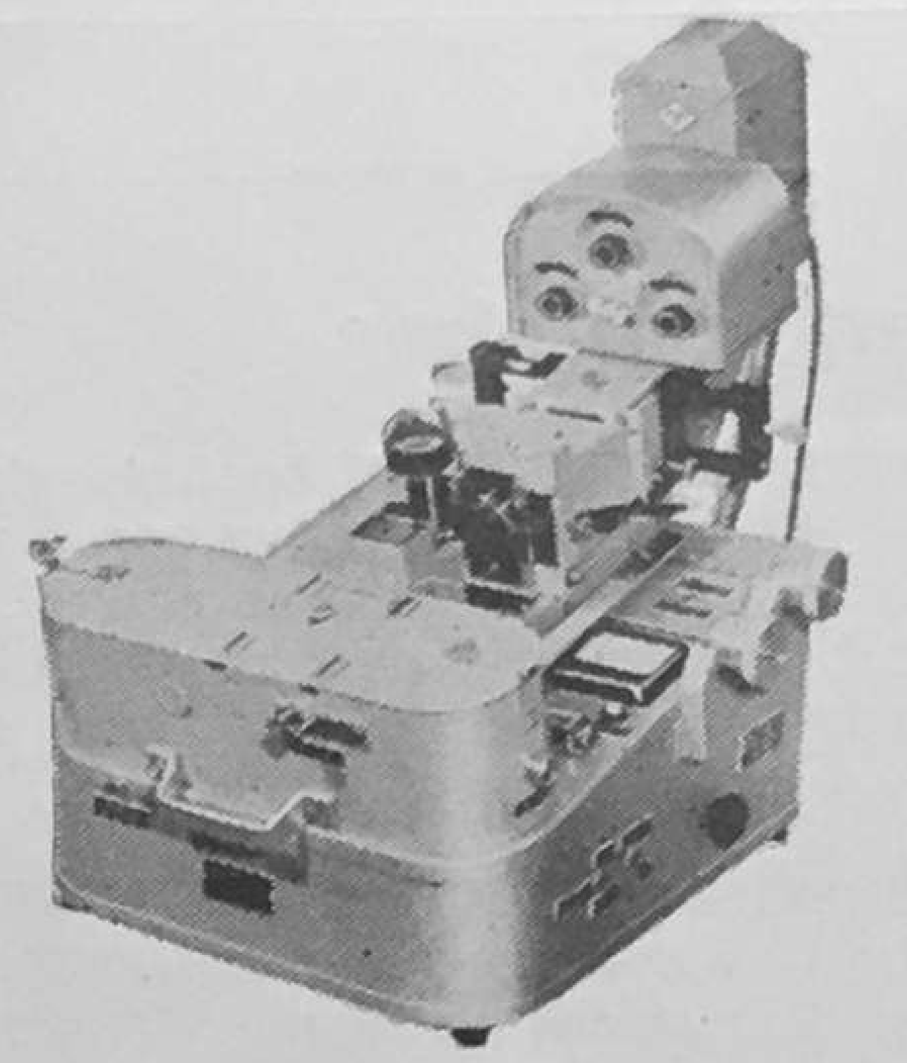
projection printers

APAC DUOMATIC is 2 fully automatic machines in one—a roll paper contact printer and easel which will convert an enlarger into a rapid projection printer. **Duomatic 11 with 10CP Timer, $2596**; with UHS Timer, **$2,696**

APAC PROJECTION PRINTERS are designed for rapid production of finished prints. Model 24-EK takes everything frame, 35mm film, uses only one width paper (3½″), any single-contrast, contact or rapid contact in 3 grades (0, 1 and 3). Makes oversize prints as fast and easy as ordinary contact prints—over 400 prints an hr. Automatic lever set numbering device for numbering prints; automatic paper clamping during exposure; coated lens; negative visible throughout operation; 5-button contrast control panel; handles cut film as well as strips, can make part-negative enlargements from films up to 5x7″; base only 13x17″. **$496.** Model 24 EKPT, same but with APAC photo electric eye timer that takes reading from print and makes correct exposure from No. 616 size down to single-automatically, **$896**

APAC UHS PHOTO EYE TIMER converts any enlarger into rapid projection printer without print quality sacrifice. Electronic "brain" controls entire operation, correctly exposing print, advancing the paper roll to predetermined length. Price on request.

EMBY-HOMRICH 35MM AUTOMATIC OPTICAL PRINTER is for positive or negative color printing. Positive to positive handling of slides (full or half frame), stereo slides and film strip duplicates. Positive to negative handling of slides or transparencies to color internegatives. Negative to positive handling of 85mm Kodacolor negatives to color transparencies or 35mm Type C Strip Prints. The printer completely eliminates operator error with automatic photoelectric exposure control; built-in color head for easy and accurate filtration, a turn of the knob selects the right filter combination; variable exposure light quality and intensity with a choice between several positions to suit the requirements of a particular transparency; provision for multiple exposure on a single frame. Titling and special effects are possible on dupes; improved cooling system which circulates air throughout the interior of the unit, not just in the lamp house; interchangeable 100′ capacity raw stock magazine. **$2195** & up. Special accessory magazine available for 46mm film. Permits making full size super slide duplicates. Prices on request.



EMBY-HOMRICH INTER-NEGATIVE PRINTER makes inter-negatives or super-slide duplicates. The printer loads with 46mm (127 film size) 100′ or 200′ rolls in order to make possible faster printing from larger negatives, sharper prints and enlargements. Printer controls are simple and include preset focus. One control sets for 1 to 1, enlarging and reducing automatically adjusted film advance, mirror-shutter reflexes image for visual check. The unit takes all popular sizes, 2¼ X 3¼″, 2¼ square, super-slides, 35mm slides, bantam slides, stereo slides. Fast and easy to operate, the unit makes it possible to avoid expensive installation of reversal printing line. Prices on request.

printing frames

HPI FILM PROOFER is a printer that accepts any size film from 35mm to 620 rollfilm and up to 8x10 sheet film. An entire roll of film can be proofed in a single step on one sheet of enlarging or contact paper. Metal base with non-reflection finish. Optical glass pressure plate with metal swing-arm that holds glass in raised position when paper and film are inserted. Built-in clips to hold paper and negatives firmly and flat. May also be used as border-less easel and copying easel. **$12.95**

PREMIER PRINT FRAMES, Professional models, are made of hard well-seasoned maples with smooth sanded lacquer finish. They have sturdy grooved corners, two heavy plated spring-steel clamps for perfect contact, and laminated pressure back lined with felt. Frame glass furnished. 5x7″ **$4.50;** 8x10″ **$5.50;** 11x14″ **$7.75**

diazo whiteprinter

BLU-RAY DIAZO WHITEPRINTER. Has increased light—50% faster printing speed; sepia reproducibles now easily made; prints translucent foils for projection; suction air cooling for longer lamp life. Transparent developer tube; convenient finger-tip external speed control; all ball bearing construction; low cost lamp replacement; automatic belt tension for easy, even feed. New modern design snap-on case. Model 259; 22″ capacity, **$257.50;** Model 459; 42″ capacity, **$287.50**

proof printer

BLU-RAY 14″ PROOF PRINTER. Makes 200-300 studio proofs in a single hour. Fast, sure quickly pays for itself. Variable contrast control; proofs are sharp and clean. Operates on any 110 volt line, easily moved. Simple and fool-proof to operate. No frames to load, no "cloudy day" delays, **$197.50. 42″ PROOF PRINTER,** as above, but makes 400-500 studio proofs in an hour, **$297.50**

books

THE PRINT: CONTACT PRINTING AND ENLARGING by Ansel Adams. The personal printing methods of a photographer famous for the quality of his own prints. Contact printing and enlarging, papers, chemicals, etc. It also covers spotting, toning, mounting and presentation of the finished prints. **$3.75**

LOOTENS ON PHOTOGRAPHIC ENLARGING & PRINT QUALITY. Priceless how-to-do-it tricks and advice that will definitely improve any photographer's ability to get richer, "juicier" prints by projection. Considered most practical book ever written on subject. **$4.95**

See pages 10 & 11
for other color
printing devices

CHEMICALS, MISCELLANEOUS

developers

BFI NO. 80 ONE-MINUTE FILM DEVELOPER is super-concentrated for amazing developing speed. At 68°F will completely develop film in one minute. One quart without replenishment will process 200 4x5 film. One quart replenished with two additional quarts will process in excess of 1,040 4x5 film. Develops as fine a grain as most fine grain developers with even better detail in the shadow areas. ½ pt. makes qt. Qt. makes gal.

BFI No. 84 ONE-MINUTE PAPER DEVELOPER is super-concentrated. Designed for those who prefer blue-black tones. Improves detail in the shadow areas and possesses good gradation qualities. One quart when diluted will process three hundred 4x5 prints. ½ Pt. makes a qt., Qt. makes a gal.

EDWAL FG7 (Fine Grain Concentrate #7). A single concentrate which will successfully develop every modern film. By means of simple variations of dilution and timing gives superior results for normal speed development, available light, electronic flash, "fine grain in four minutes" speed development, and one-shot development of both thin emulsion and fast films. Used at dilutions from 1:1 (for 4-min. development) to 1:15 (for thin emulsion films). The different dilutions are in effect different developers, each with its own characteristics suitable for the use to which it is put. Each quart makes from two to 16 qts. depending on method used. 4-oz., 16-oz., qt., gal. Larger sizes available.

EDWAL PLATINUM DEVELOPER CONCENTRATE is a paper developer for warm, handsome tones on Medalist, Opal, Indiatone, etc. Especially good for Varigam. 16 oz. bottle.

EDWAL PROFESSIONAL PAPER DEVELOPER is an anti-fog, blue-black tone developer for all types of paper. Made with both phenidone and metol and has advantages of both. Concentrate diluted 1:15 for cold tone papers, 1:19 for warm tone papers. New, fast-working formulation has separate bottle of activator in each carton. Gal.

EDWAL SUPER 111 is similar to Platinum Tone but intended for commercial and industrial use. Very fast working. Gives very clean image. Used Industrially for oil exploration, commercial print making and copy work. Qt. (makes 10 pts.) and gal.

EDWAL VELVET #2 PAPER DEVELOPER CONCENTRATE is phenidone type, cool tone developer which makes 1 gal. from a 16 oz. bottle. 16 oz. bottle, gal., 5-gal.

EDWAL MINICOL is a compensating, clean-working, fine grain developer for all contrasty lightings such as interior assembly line shots, flash on camera shots, and long flash duration electronic flash units. Especially good for Adox 14, Panatomic X, etc., at 1:4 dilution. Qt. **$1.45;** gal. **$3.95**

EDWAL SUPER 12 is a long scale fine grain film developer giving the highest possible film speed. Especially for electronic flash and available light. Qt. bottle **$1.45;** gal. **$3.95. EDWAL SUPER 20** is a super fine grain developer giving the finest grain that can be obtained with normal film speed. For all 35mm, Minox, and other small negatives. For electronic flash when used with Super 20 Replenisher. Qt. **$1.45;** gal. **$3.95.** Replenisher, 16 oz. bottle, **89¢**

FR X-33C SUPER FINE GRAIN DEVELOPER gives clean crisp negatives. No sacrifice of emulsion speed, complete shadow detail; gamma to 0.8. Qt., **$1.49 FR X-33C REPLENISHER** keeps X-33C developer like new, maintains constant developing times. 8 oz., **59¢**; Qt., **$1.49**

FR ELECTRONIC FLASH DEVELOPER is designed specifically for film exposed by this method. Renders excellent detail without blocking up highlights and without prolonged or forced development. 8 oz. & qt.

FR NEGATIVE DEVELOPER is universal negative developer for use when extreme fine grain is not essential. 8 oz. and 26 oz. (makes 2 gals.).

FR X-22 CONCENTRATED COMPENSATING DEVELOPER is for use with high-resolution, thin emulsion, fine grain films such as Adox and Kodak Panatomic-X. 3 one ounce bottles.

FR X-500 MEDIUM FINE GRAIN DEVELOPER multiplies emulsion speed up to 10x, permits you to expose ultra-fast film at ratings up to 2,000. 8 oz. & qt.

FR PAPER DEVELOPER is universal paper developer. Produces rich blue-black tones, soft grays and crisp whites. 8 oz. and 26 oz.

short stops

EDWAL INDUSTRIAL INDICATING SHORT-STOP is an industrial strength short-stop which changes color when exhausted. 1 qt. makes 24 gals.; 1 gal. makes 96 gals. Used to start the short-stop bath in large tanks or trays. Replenished with ordinary acetic acid. Qt. and gal. bottle.

EDWAL SIGNAL SHORTSHOP is a photographic acid with color indicator for making shortstop baths or for adding direct to fixer where no shortstop is used. New, double strength concentrate; 10 drops makes qt. of short-stop for fine grain developing; ½ oz. makes qt. for paper developing. 4 oz. 16 oz.

FR SHORT STOP WITH COLOR INDICATOR is highly concentrated solution which signals when exhausted by turning from yellow to purple. Used as rinse after developing and before fixing, stops action of developer and prolongs life of fixer. 8 oz.

fixers & hardeners

EDWAL INDUSTRAFIX is rapid fixer for graphic art, industrial print making, photo templet, and photo finishing. Has anti-sludge ingredient that prevents precipitation of hardener when no shortstop is used. Small Unit Pack (6 bottles making 1½ gal. each). 24 gal. pack (makes 24 gal. working solution), 30 gal. pack (makes 30 gal. working solutions).

EDWAL QUICK FIX is a fast-hardening, rapid fixer for professional & industrial shops and for medical and dental X-ray. Extreme long-life and powerful hardening. Qt. unit makes 1 gal., 81 oz. unit (extra concentrated) makes 3 gal., 135 oz. unit (extra concentrated) makes 5 gal. 5 gal. unit makes 20 gal.

EDWAL HI-SPEED LIQUID FIX CONCENTRATE is a non-hardening rapid fixer. Fixes paper in 1 minute, film in 2 to 3 minutes. 4 oz. (to make 1 qt.) 16 oz. (to make 1 gal.).

EDWAL ANTI-SCRATCH HARDENER when used in fixer or hardening bath makes negatives almost impervious to scratches. 4 oz. and 80 oz.

FR FIXOL is concentrated acid fixing solution containing hardener. Protects and preserves negatives and prints 8 oz. and 26 oz. (Makes 1 gal.)

FR RAPID FIXOL fixes negatives and prints permanently in one minute. 8 oz. & 16 oz. sizes dilute 4 to 1.

FR INSTANT FIXOL is new idea in darkroom chemicals. Added to one-time use developers like FR "ONE-SHOT" X-22, it stops development instantly and makes the developer a fixer. Cuts washing and fixing time. Gives all the advantages of a monobath plus complete control over the developing. 3 one ounce bottles.

film preservers & hardeners

EDWAL NO-SCRATCH is a fluid which, applied to scratched negatives or color transparencies, hides practically all scratches except those that go through the emulsion. Permits scratch free enlargements or projection prints. ½ oz. (treats about 300 negatives), and 4 oz.

FR LIQUID HARDENER is used with FR Rapid Fixol or any acid fixer when processing at temperatures above 68 degrees. Gives films and prints a hard permanent finish under hot weather conditions. 8 oz. & 26 oz.

VACUUMATE FILM PROTECTIVE TREATMENT provides lasting protection against oil, water, scratches, climate, finger marks and ordinary wear. One treatment lasts life of film. Color, grain or density of film image or sound track is not affected. Effective for all types of film, including color. Can't wear off or be cleaned off.

film cleaners

ECCO ANTI-STATIC FILM CLEANER #1341 with "miracle" scratch-screening agent removes dust, dirt, lint, water marks, fingerprints and grease from film. Keeps film permanently free of dust-attracting static. Masks surface scratches out of prints and enlargements. Reduces surface friction, preventing scratches. Keeps negatives pliable, non-brittle. Dries instantly, cannot be seen or felt on film. Speeds finishing, eliminates re-runs, reduces retouching and spotting. Enhances the quality of finished prints, contributes to flawless enlargements. Contains no carbon-tetrachloride. Qts. & Gallon

EDWAL COLOR FILM CLEANER is non-inflammable liquid for cleaning color films, slides and prints; also good for black and white film. Makes film permanently static-resistant. New solvent, 20 times less toxic than carbon tetrachloride. 4 oz. & gallon.

NEUMADE RENOVEX is improved film cleaning solution to give sharper pictures and clearer sound. Waxes and lubricates film as it cleans, protecting emulsion and freshening dried and brittle film, automatically renders the film antistatic Qts. & gallons.

FILMKARE FILM CLEANING FLUID for color or black-and-white film; harmless to color-grain or density. Gallons.

hypo eliminators

EDWAL HYPO-CHEK quickly tests fixer for exhaustion. ¾ oz. squeeze bottle (800 tests) and 4 oz. bottle.

EDWAL HYPO ELIMINATOR LIQUID CONCENTRATE. One gallon makes 16 gal. working solution. Shortens washing time of film and paper. Noncorrosive to stainless steel. Has preservative action in high speed processing. 16 oz. and gal.

FR HYPO NEUTRALIZER reduces print and negative washing from hours to minutes, eliminates discoloration and staining resulting from presence of residual hypo. 8 oz. & 26 oz.

reducers & intensifiers

ANSCO NEW COCCINE is water-soluble red dye used to increase density of thin areas of negatives so they are rendered with greater clarity and detail in the print. May also be used to reduce density range of high contrast negatives. 8 oz.

SMITH-VICTOR INTENSIFIER helps to save under-developed negatives. Single solution intensifier is permanent, will not increase grain. Intensifier is dissolved in water, negative is immersed in solution, intensification swiftly takes place, is easily controlled. No special preparation or bleaching necessary. 8 oz, **75¢**; gal, **$9**
largers, **$49.50**

toners

EDWAL COLOR TONES are single solution type; no bleaching, no offensive odor. Prints are dipped in working solution, then washed in running water. Can be used for movie film or slides. Available in 5 colors; blue, green, yellow, red and brown. Intermediate shades can be obtained by toning first in one solution, then in another. 3 oz. bottle makes 48 oz. working solution. Also available in gallon size.

print flatteners

BFI No. 20 PRINT FLATTENING SOLUTION causes prints to lie flat within a few minutes after they come from the drier, gives print lasting flexibility. Improves gloss noticeably, too. 1 gal. treats 3000 8x10" prints. Available in ½ pt., pt., qt. & gal.

PAKOSOL is a concentrated print conditioning solution with longer life in use. Excellent for adding glossy sheen to prints, for flattening either glossy

continued on next page

or matte prints, for speeding up drying time of all prints and for cleaning and preserving dryer drum. PAKOSOL dilutes and replaces water in gelatin and paper, causes prints to be flat, flexible and easy to handle, with minimum of curl and cockle. To mix, simply add PAKOSOL concentrate to water. One gallon processes approximately 40,000 8x10" prints. Use after prints have been thoroughly fixed and washed. Five minutes for single weight, eight minutes for double weight. To replenish, just add small amount of PAKOSOL. Not necessary to discard original solution unless contaminated or dirty. Qts. and Gallons.

equipment cleaners

EDWAL ANTI-STATIC FILM, GLASS AND CHROME CLEANER is powerful cleaner for black and white film, flash reflectors, editing equipment, slide covers, negative carriers, and other chrome, glass or plastic equipment. Not for color film. 4 oz. and gal.

FISHER PASSIVATING POLISH cleans, beautifies and protects the finish of all stainless steel lab equipment. Creates an oxide film on the metal surface that makes S.S. self-protecting. Per jar, **$1.95**; per case of 12 jars, **$22**; Drum, 35 lbs., **$24**

GRAFIC STAINLESS STEEL CLEANER keeps stainless steel equipment gleaming like new. Safe, harmless to hands. pkg. 4 qts per case; per qt, **$2.42**

LEEDAL STA-CLEEN CLEANER keeps stainless equipment like new. Specially compounded cleaner for type 316 stainless steel equipment. Removes brown stains, ink, mildew, animal and vegetable stains or grease. Safe for hands, no harmful vapors. Can, **$2**

LEEDAL STAINLESS STEEL WOOL for stubborn cleaning problems where elbow grease is required. Used with above cleaner. lb., **$5.50**

ROLOR ROL-CLEAN AND ROL-POLISH is the perfect protective cleaning and polishing team for proper preservation of fine stainless steel. Cleaner has a controlled abrasive action that will not scratch or otherwise mar the steel surface, while the polish will maintain the factory-new lustre with minimum physical effort. **ROL-CLEAN,** 32 oz. can; **ROL-POLISH,** 32 oz. btl., ea. **$2.95**

wetting agents

BFI No. 40 30-SECOND WETTING AGENT eliminates streaks and water spots by allowing smooth even flow of water from film surface. Reduces surface tension from 70 to approximately 42 dynes/cm. Eliminates need for wiping and thus reduces the possibility of scratching film surface. Speeds drying time by eliminating approximately 30% of the weight of water remaining on the film surface. ½ pt., qt. and gal.

ECCO #121 CONCENTRATE is antistatic rinse and wetting agent for use in negative final rinse water. 8 oz., pt., qt. and gal.

EDWAL KWIK-WET is non-ionic wetting agent safe for colors because it will not react with dyes. Can be used with spotting colors and all color and black and white finishing. Extra concentrated. 3 oz. bottle (treats 30 gals.) 1 gal. bottle.

FR WETTING AGENT is highly concentrated solution used as final bath to reduce surface tension and permit quick, easy run off. Film dries clean without water marks. 8 oz.

PAKOWETT is a super-concentrated wetting agent used in solutions for treating photographic and x-ray film before drying. In film and print processing solutions, in water colors and opaques. When used as final bath, PAKOWETT cuts film drying time by 30% to 40%, reduces spotting and streaking of film, eliminates manual wiping or sponging, makes film pliable and easy to handle. Qts. and gallons.

assorted general chemicals

CONCENTRATED PAKOSTAT when added to Pakosol, Pakochrome, Pakofine or other print conditioners will minimize static in prints. Makes print handling much easier. Ideal for cut or strip prints, either black and white or color. PAKOSTAT goes a long way too. Only ½ ounce to each gallon of mixed conditioning solution. Solutions may be replenished by adding small amounts of PAKOSTAT. Qt.

EDWAL LIQUID ORTHAZITE is powerful anti-foggant containing benzotriazole. Makes any fine grain developer give finer grain. Suppresses fog and stain on outdated paper. Prolongs useful life of paper developers. 4 oz., qt. or gallon.

McMASTER'S PHOTO ERADICATOR for use with all silver nitrate sensitized photographic and reproduction materials, will delete unwanted lines and sections without injuring material. No stain or discoloration. Image will not reappear when run through hot drum on blue print or repro machines. Sets consist of 2 chemicals, A and B, supplied in dehydrated form, just add tap water to fill and you have full bottles of concentrated solution. 1 oz. set, **$2;** 4 oz., **$4;** 8 oz., **$6.75**

PHOTO-STAIN REMOVER K-14 (Anchor Chemical Co.) bleaches fixer and developer stains. Can be used on white or color-fast materials. Will not harm skin. Packed in plastic dispensers. 6 oz., qt. gal.

PROBUS PRESERVATIVE PAINT for all photographic purposes. Applied to wood, fibre, tin, iron, it renders these materials resistant to the action of water, acid, alkali and rust. Can be used in field production of wooden trays, sinks, etc. Easily applied, dries quickly. Half pint. Pint, Quart and Gallon.

PROBUS PRINT LUSTRE adds brilliance and depth to shadows, gives lustrous finish to all grades of developing paper or bromide prints. Especially effective on sepia-toned or redeveloped papers. Cleans soiled photographs. Can also be used as negative varnish and retouching medium. Excellent as medium for use with oil colors in coloring photographs. ¼ pint tin.

SNOPAKE is fast drying opaquing solution for correcting typing for photo-offset reproduction. Xerox, Verifax and other office copy processes. 1 oz. kit, **$1;** 8 oz. refill, **$3.95;** pt., **$7.39;** qt., **$14.07;** Thinner and brush cleaner, pt., **$1.25;** qt., **$2**

STAIN-OFF is used for the safe removal of photographic fixer and developer stains from clothing, etc. Entirely non-toxic, non-volatile, non-inflammable; will not harm any color-fast fabric. Supplied in liquid form, in polyethylene "squeeze" bottle with plastic applicator tip. 2 oz. bottle and quart.

RETOUCHING EQUIPMENT

brushes

GRUMBACHER SPOTTING BRUSHES, Style 178, are fine quality red sable, with fine-tapered split-proof points for spotting and retouching photos and negs. in ten sizes. #00000, #0000 **50¢;** #000 **55¢** #00 **60¢** #0 **65¢** #1 **70¢;** #2 **75¢;** #3 **90¢;** #4 **$1.05;** #5 **$1.25**

KODAK DELUXE SPOTTING AND COLORING BRUSHES of excellent quality camel's hair, in 4 sizes, #0 for detail work, **60¢.** #2 and 6 for Flexichrome Process and general coloring work, **#2, 80¢; #6, $2.25.** #8, especially adapted for opaquing, **$3.95**

etching tools

ADAMS ABRADING TOOL for negative retouching has 5" aluminum handle that holds a very sharp needle. Excellent for fine work on miniature negatives, small heads, group pictures; also for killing pinholes, etc. With needle **$1.50.** Extra needles, each **25¢**

ADAMS ETCH TOOL for hand or machine etching has aluminum handle and heat-treated, precision-sharpened, tool-steel blade. Two working edges. 7" overall, **$3.** Blade factory-resharpened **35¢**

DiCARLO NEW CRYSTAL ETCHER tempered glass tip never needs sharpening, outlasts steel, works on film or paper, acetate overlays, and in all jobs of retouching where the old steel etching knife can be applied. ETCH TOOL SET (one holder, two glass tips) **$1.85.** Additional tips, ea., **75¢**

GERMAIN RETOUCHING KNIFE & PENCIL SETS. Contains all aluminum balanced lead holder, graded lead, all aluminum knife handle, 2 etching blades (large and small) of finest steel, hand ground to special cutting edge. Packaged with illustrated Manual on Retouching and illustrated Manual on Etching. COMBINATION RETOUCHING KIT NO. 1 **$3.** RETOUCHING PENCIL KIT NO. 2, contains aluminum lead holder, graded lead and illustrated Manual on Retouching. **$1.50.** ETCHING KNIFE KIT NO. 3, contains aluminum knife handle, 2 etching blades, and the illustrated Manual on Etching. **$1.75**

KODAK ETCHING KNIFE is especially designed for the photographer. Lightweight Tenite plastic handle holds nickel-plated steel blade that is beveled on one side only, and is easy to sharpen, **$2.25**

RAMSEY FILM LINE CUTTERS for cutting lines on photographic film are not scratching tools. They actually cut the line and "peel out the emulsion in one stroke" leaving clean, sharp edges for perfect reproduction. Cutting heads are made from the finest spring steel. #3 cuts .012, #4, .009, #5, .005, ea., **$1.75;** Set of three, **$5**

opaques

GRUMBACHER GAMMA RANGE NEUTRAL RETOUCH GRAYS are opaque water colors in 6 shades of gray, for retouching with either brush or airbrush, on matte or glossy prints. tube **35¢;** 1-oz jar **40¢;** 4-oz jar **$1.25**

GRUMBACHER SPEED-O-PAQUE is a quick-drying, non-crawl film negative red opaque. Thins with water. In jars: 2-oz **75¢;** 4-oz **$1.10;** 8-oz **$2;** 32-oz **$7**

KODAK OPAQUE is recommended for blocking out backgrounds or other areas in film or plate negatives to produce white areas in the print. In paste form; Black: oz., **85¢;** 8 oz., **$4.15.** Red; oz., **$1.05;** 8 oz., **$5.20**

MASKOID LIQUID FRISKETS are for air-brushing, photo retouching, coloring and special effects. Have many applications, easy to use and remove. 2 oz., **$1.25;** 4 oz., **$2.25;** 8 oz., **$3.95**

NUTRAN QUICKTONE is simplified strip film method used in place of wet plate red negative. Strip film so treated changes the silver black image into a strong yellow which remains translucent to the eye, but opaque to the printing arc light. No image density loss. Film's skin is toughened, cutting with knife made easier. In qt. size.

pencils & leads

CASTELL SILVER LEADS cover entire range of professional negative retouching. Come in three grades 2b to 4H. Permits building density without killing image and eliminates use of dope, can be sharpened to 1" taper, doz., **$1.80;** gross **$21.60. SILVER RETOUCH HOLDER** for use with silver lead, ea., **$1.75;** gross, **$252. CASTELL DRAWING PENCIL;** available in 20 degrees 8B-10H, gross, **$28.80. #9003** with chisel point leads, in 6 degrees 4B to 6H. Ideal for draftsmen and engineers because of flat shape and trueness of line width, gross, **$28.80; #9007** with eraser tip, in 11 degrees 3B to 6H, gross, **$28.80; #9400 Locktite** in 20 degrees 8B to 10H, made with shaped and knurled finger grip tip. Holds black and colored lead. Unique self locking clutch grips lead securely. Has green body imprinted to show degree of lead contained therein, push button caps colored for quick identification. Each contains a 5¼" lead. Leads interchangable, gross, **$252. #9800 Locktite Tel-A-Grade** has degree marking device in brass collar which shows degree of lead in use, gross, **$270. #9500 and 9500A Castell Locktite** pocket size with clip, gross, **$252. Castell** double end holder, gross, **$252.** Sets of 5, **$10.40;** Sets of 10, **$19.25**

KOH-I-BALL NO. 3025-F "REPRO" (MEDIUM)—This refillable reproducing ballpoint pen with its long visi-point is especially designed for writing or checking which must be fotocopied or reproduced. Attractively styled with gloss black finish with gilt imprint. Available in reproducing red, blue, green, and black. **KOH-I-BALL NO. 3024-F "REPRO" (FINE)**—3025-F styling. Available in reproducing black only. **KOH-I-BALL NO. 3012-D "RETRACTABLE" (MEDIUM)**—A smooth working retractable pocket ballpoint pen, beautifully styled in elegant chocolate brown plastic barrel with contrasting gilt parts. "Color-Coded" push buttons for quick identification. Available in red, blue/black, green, and black ink. KOH-I-BALL

NO. 301-DF "RETRACTABLE-REPRO" (MEDIUM)—3012-D styling. Black barrel indicates "reproducing" ink. Prices on request.

retouching desks

GERMAIN RETOUCHING STAND is made of carefully selected, kiln dried hardwood, with flashed opal glass, adjustable aluminum brackets, non-slipping rubber legs and negative rest. Accommodates negatives up to 8x10". Excellent for viewing Kodachromes and transparencies. Individually boxed with illustrated Manual on "Portrait Negative Retouching". **$13.95**

NEGA-FILE NEGATIVE RETOUCHING DESK for negatives to 8x10" has tiltable mirror enclosed in bottom of chest, reflects light on ground glass. Drawer provides spaces for pencils, tools, etc. Nickeled steel stays and knurled nuts permit ground glass frame to be adjusted at any angle. Cover of chest serves as light shield. Hinges and catch permit desk to be closed completely. Carrying handle. With mask **$20.95**

spotting colors & retouching medium

ADAMS RETOUCHING FLUID spreads smoothly, eliminates minor scratches, leaves no lines. Easily removed with alcohol, turpentine or benzine. In dispenser-type bottles. 2-oz. bottle **$1.25;** ½-pt. bottle **$2.50**

BORDEAUX PHOTOGRAPHIC NEGATIVE RETOUCHING SOLUTION has been in use for over 70 years. Retouch 10 seconds after one simplified application. **25¢; 50¢; $1.25¢; $6.50; $12; $21**

GERMAIN RETOUCHING MEDIUM is a "Dope" available in dispenser. 1 oz. size, **45¢**; 2 oz. size, **75¢**; 4 oz. size **$1.25**

NUTRAN RETOUCHING DYES are used in lithography and photo-engraving for retouching, smoothing out and correction of tone values on films or dry plates. Dyes are light-fast, penetrate easily into emulsion, do not change color, lie smoothly. #5551 Cold Grey, 2 oz **$3.75;** 16 oz **$26.50;** 32 oz **$46.50.** #55 Brown Cast, #59 Red Brown Cast (preceding also recommended for retouching of black and white prints); Opaque Dye (this is an opaque visible dye, used for retouching positives); #51 Blue Black (also recommended as air brush solution); Sepia (for spotting & retouching sepia prints). 2 oz **$3.75;** 16 oz **$24.50,** 32 oz **$41.50.** NUTRAN solutions which are close to silver densities: #44 Sepia black cast, #333 Black sepia cast, #24 "Neo" black-red, 2 oz **$4.25.** NUTRAN #605, for spotting and retouching aerial glossy prints, 4 oz **$8.** NUTRAN Vermilion, red stain #3: 8 oz **$6.80,** 16 oz **$12,** 32 oz **$20.** **NUTRAN** retouching aid removes finger prints, water-repellent impurities. Applied preparatory to retouching. 8 oz **$2.30,** 16 oz **$4.60,** 32 oz **$7.45.** NUTRAN Dye remover, 2 oz **$3.75.** NUTRAN OPAQUES: Black water soluble: 2 oz **$1.50,** 8 oz **$5,** 16 oz **$8.** Red water soluble: 9 oz **$2.20,** 18 oz **$4.** NUTRAN STAGING LACQUERS & PROTECTIVE COATING: Overlay lacquer #2, 8 oz **$4.80,** pt **$6.50,** qt **$10.50.** Overlay lacquer thinner, qt **$3.75,** gal **$13.50.** Cutting lacquer 8 oz **$3.90,** pt, **$5.50,** qt **$9.50.** Cutting lacquer thinner, qt **$3.75,** gal **$13.50.** Protective coating pt. **$4.25,** qt **$7.35.** Protective coating thinner, qt **$3.75**

KODAK SPOTTING COLORS are supplied as set of three colors—black, white, and sepia—each on a cellulose card palette. Provide convenient pigment source for retouching prints or negatives. Set of three colors, **$1.15**

retouching kit

SPOTONE RETOUCH KIT contains three half-ounce bottles: black, selenium brown and gold chloride blue-black. Extra colors are available as No. 0 Olive, No. B Brown and No. S Sepia. Standard set is **$1.65.** Extra colors: black, **70¢**, selenium brown, olive, and gold chloride blue-black are **65¢** each; No. S Sepia and No. B Brown, each, **75¢**

spotting brushes

DELTA PHOTOGRAPHIC BRUSHES. Camel-hair lens brushes are available in 2 styles: #319 is in a gold metal lipstick-type case; ½" diameter; #318 is retractable, 1" diameter, in a red plastic case; either style, **$1.** Retouching brushes are available in three styles: the popular red sable style 527, the selected sable professional style 5000 and the "Perm-a-Point" style 520 for exacting work.

	000	00	0	1	2	3
527	**.35**	**.38**	**.40**	**.45**	**.50**	**.55**
5000	**.90**	**.90**	**.90**	**1.00**	**1.20**	**1.50**
*520	**.55**	**.60**	**.65**	**.70**	**.75**	**.90**

*Also available in 0000 and 00000 sizes. **50¢**
NO. 814

WINSOR & NEWTON series 7 Albata are pure red sable hair pencils held in seamless nickel ferrules with round, black, polished handles in sizes 000-14. Hair lengths range from 7/32" to 1-17/32", **90¢** to **$35.** Series 29 are pure red sable spotting brushes in sizes 000-4. Hair lengths available ¼"-½", **50¢** to **$1**

ektacolor retouch colors

EKTACOLOR PRINT RETOUCHING COLORS. These liquid colors are selected for their ability to match the characteristics of the Ektacolor print emulsion. They penetrate into the print image and leave no residue on the surface. Fast working, and the variety of colors covers every problem of color print correction. Complete boxed set contains 14 different colors and six retouching sponges. **$12.** Separate bottles, each **90¢**

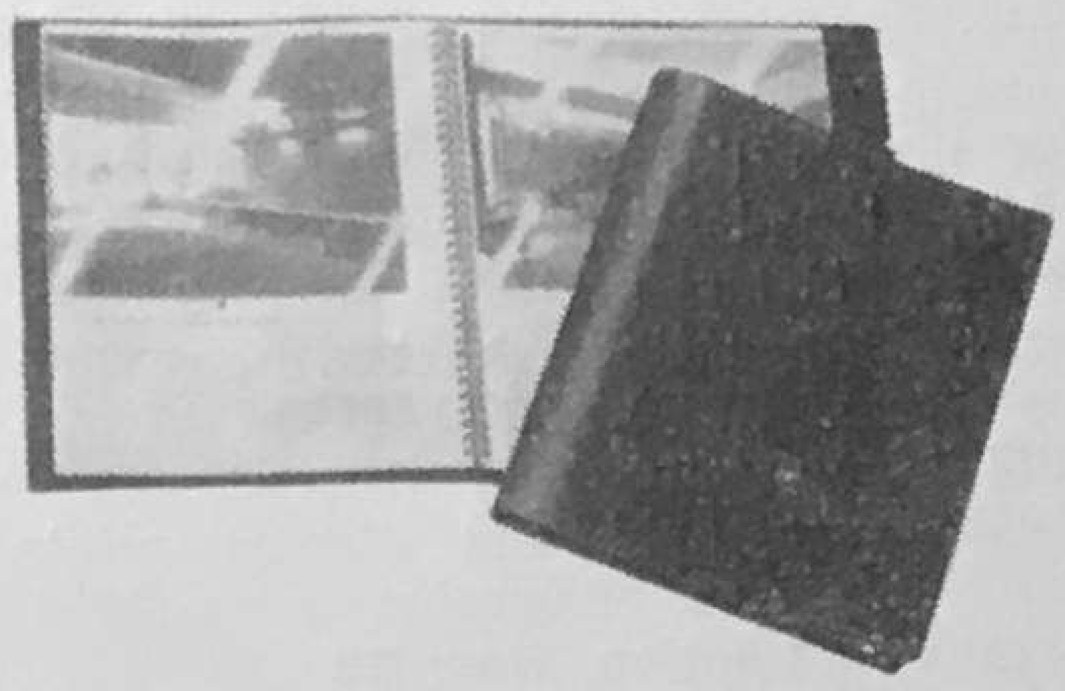
book

RETOUCHING by O. R. Croy. Seven out of ten negatives need some work to make an unreservedly acceptable print. The methods, materials and tools required, as well as the technique, are all told in this fine Focal book for the photographic craftsman. Over 200 formulas and tables, with outspoken advice on their practical use. 200 pages, 304 illustrations. **$4.50**

ALBUMS, MOUNTS & PRESENTATION MATERIALS

albums

FUL-VU VU-DEX BINDERS—for "flip-up" visible reference. Excellent for real estate listings, price lists, professional records, salesmen's route-and-customer lists, pictures or just plain product selling. Covers are durable Russhide, nylon-stitched for long wear. Mikafilm acetate sleeves, hinged on spring wire.

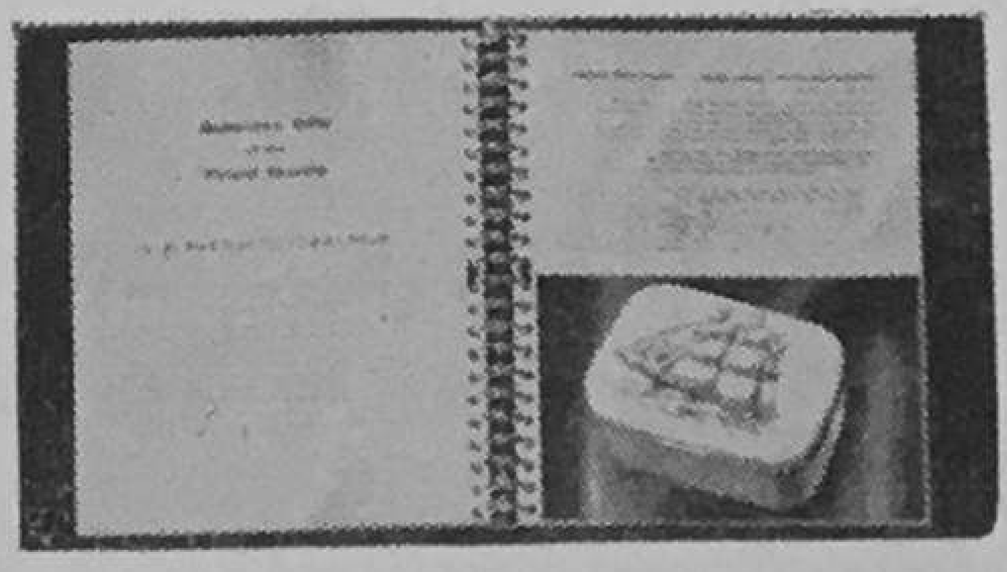


Factory-equipped with one tray of either 25 or 50 sleeves; capacity can be doubled by addition of second tray.

Size	25-Sleeve Tray in Unit	Extra Trays	50-Sleeve* Tray in Unit	Extra Trays
3x5"H	**$4.50**	**$2.15**	**$12.00**	**$5.00**
4x6"H	**5.75**	**2.75**	**13.25**	**6.00**
5x7"H	**7.50**	**4.25**	**16.00**	**10.00**
5x8"H	**8.50**	**4.75**	**18.00**	**10.75**
8x10"H	**12.50**	**7.75**	**28.00**	**18.00**

*50-sleeve binders and trays (6¼" longer) are made to special order; two-week delivery.

FUL-VU BINDERS, EASEL DISPLAYS AND ALBUMS—in styles to solve practically every presentation problem. The economical **TWIN WIRE** and deluxe "loose-leaf" **MULT-O-RING** are ring-type binders; the **VU-DEX** series is for multiple "flip-up" presentation. Many units provide for expansion by means of "sleeve packets." Special "easel" adaptations for desk and/or group presentations are available in both the Mult-O-Ring and Russhide-covered Twin Wire series. The **FUL-VU TWIN WIRE** models, with Mikafilm window sleeves, are bound in flexible Russhide imitation leather, vinyl plastic or genuine leather. Average 3 rings per inch, as compared with the 3 rings, complete, in conventional binders, thus adding 10 times more tear-resistance to prolong the life of insert-material. Capacity can be doubled by additional TWIN WIRE "unit" and Mikafilm "Add-A-Leaf" sleeves. The **MULT-O-RING** models have the advantage of complete loose-leaf flexibility.



Following is a resume of popularly used sizes; many more are available:

VISUAL DISPLAY BINDERS—10 Sleeves

Insert Size	Twin-Wire	Mult-O-Ring
7x5	**$3.75**	**$4.25**
10x8	**5.50**	**6.60**
11x8½	**5.50**	**6.60**
14x11	**9.25**	**10.00**

EXTRA UNITS AND SLEEVES

Size	Add-A-Leaf Twin-Wire Unit with 10 sleeves	Sleeves (10) Punched for Twin Wire	Sleeves for Mult-O-Ring Binders (10)
7x5"V	**$2.00**	**$1.80**	**$1.80**
10x8"V	**3.15**	**2.50**	**2.50**
11x8½"V	**3.15**	**2.50**	**2.50**

ECONOMY MODELS—10 Sleeves

Size	Twin-Wire	Mult-O-Ring
11x8½	**$2.85**	**$3.50**

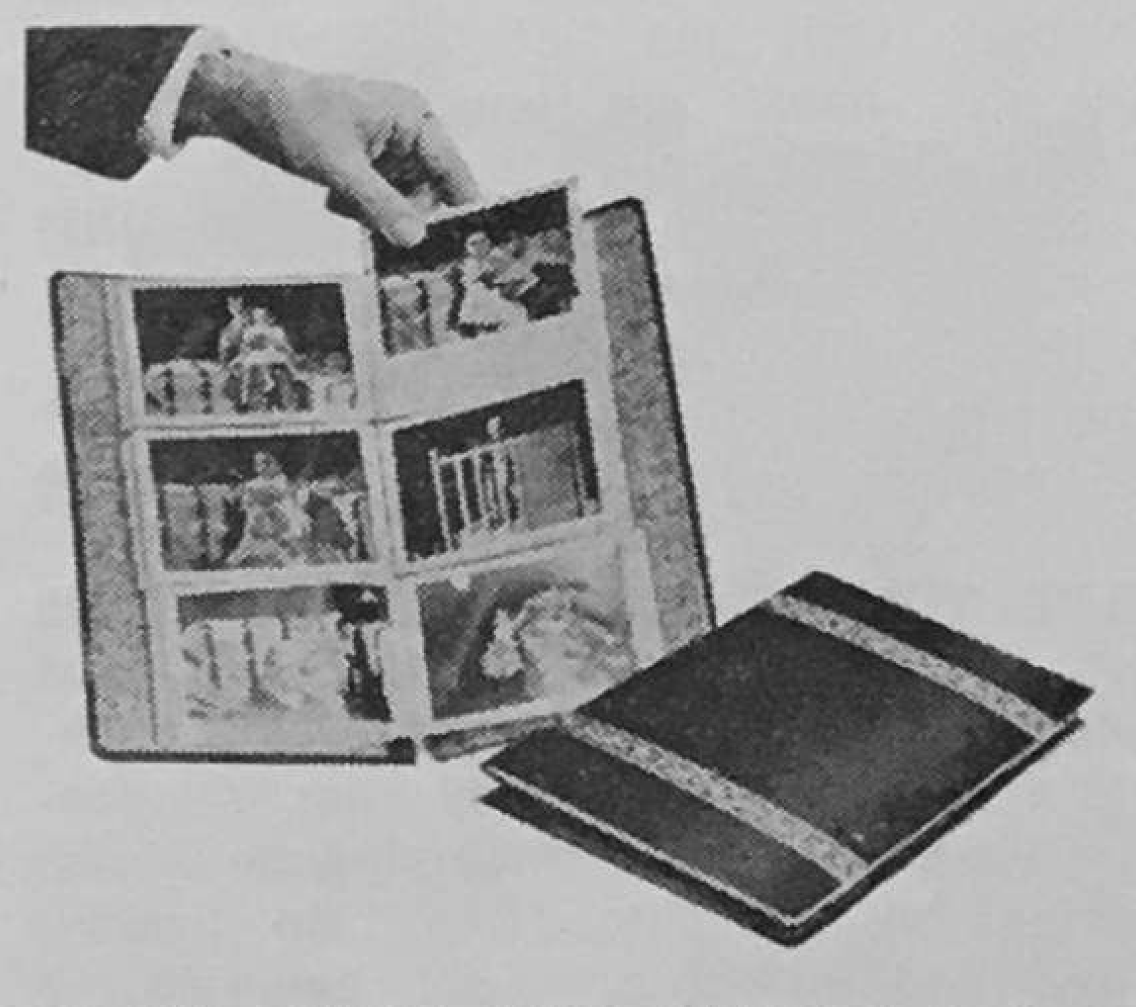
FUL-VU ALBUMS for standard enlargements are most appreciated in the large-capacity models featuring the Mult-O-Ring metal binder with up-to-70 capacity for single-weight prints. Comes in green, red, blue or brown.

DeLuxe Padded Cover (6 sleeves)	**7x5"V**	**$4.50**
	10x8"V	**6.50**
	11x8½"V	**6.50**
	14x11"V	**10.00**

HOLSON FLEXIBLE BINDER is ideal for sales presentations or as a sample portfolio. Pages are sturdy, heavy-gauge acetate over black album sheets. Rubber impregnated black leatherette covers, full-length pocket on both sides. Model 6 GF-1, **$3.50**

HOLSON STEREO WEDDING ALBUM is a luxuriously silk-lined, contour-padded album made of seasoned wood, covered with washable DuPont Fabrikoid . . . which holds self-illuminated white stereo viewer and up to 70 stereo slides. Prices upon request.

HOLSON PIK PAK ALBUMS. Unlimited print capacity. Kodapak leaves, **$3.80** each.



HOLSON MULTO RING BINDERS feature gummed, centered acetate leaf permitting photos and other material to be mounted quickly and easily by dampening a corner and positioning. Binder K8½x11S, simulated leather cover in red, tan or green, with 6 acetate pages, **$5;** same but with leather cover in wine and ginger, **$8.50**

CAMILLE ALBUMS, SCRAPBOOKS PRESENTATION BINDERS are available in a complete line of sizes, colors, covers and bindings. Majestic Loose Leaf Binders, open back-screw post style, complete with 40 leaves of jet-black or manila mounting paper, in quantities of 1 to 11, **$2.40** to **$9.50;** 12 or more, **$2.30** to **$9.20;** according to sheet size. Camille '800 Series' Albums (8 x 10); **$10** to **$25.25.** Camille '1700 Series' Musical Albums (built-in music box plays when cover is raised) 8 x 10: **$15.75** to **$30.25.** P-K folios for snapshots, etc.: **$1.30** ea. Multo Ring Albums. **$3.60** to **$14.80** ea. Scrapbooks: each **$3** to **$16.** Bookshelf Albums: each **$4** to **$11.70**

CAMILLE POLAROID PRINT ALBUM holds 90 prints, has write-in identification index pages, gold-stamped padded covers in many colors, plastic multo-ring binding. Each, **$3.98**

ELBE PHOTO DISPLAY ALBUMS are made in several different forms, each for a specific purpose. **ELBE POCKET PHOTO ALBUMS** have a rich, smooth cover of cordovan vinyl, washable, durable. Seamlessly sealed with heat. Come with 10 acetate envelopes. **ELBE**

continued on next page

DELUXE PHOTO ALBUMS are finely detailed and provided with album leaves, interleaving and slip cases, **$6.48.** **ELBE RING BINDER ALBUMS** have the distinguished look of a collector's custom-bound edition with the utility of a precision, loose-leaf mechanism. Matching slip cases protect binders and contents from dust and damage. **ELBE PHOTO ALBUMS** contain 5 separate photo presentation booklets, each with 20 acetate pockets, individually removable, easily accessible. Ideal for classifying, display or storage. **$14.90;** booklets separate, **$2.40**

ELBE PHOTO DISPLAY BINDERS are designed as practical method of presenting photos, sketches, reports and printed matter. SHOWMASTER comes in tough, simulated leather, levant grain, blue or brown. 2 slip pockets for insert units, additional full-length vertical pocket. Capacity 20 acetate envelopes (40 windows). 11x9″ to 17x14″, **$4.94** to **$14.** SAMPLER, flexible, heavyweight paper cover stock, in red, green, blue or black, 11x9″, capacity 12 acetate envelopes, **$1.84.** MULTO-RING, heavyweight simulated leather, colonial grain, capacity 30 acetate envelopes, 11x9″ to 24x18″, **$5.26** to **$18.90.** **ELBE PHOTO FLIP FILES** are handy, portable presentation files with visible, built-in index. Complete view and full protection. No pasting or glueing, just slip in material. Blue or brown, 9½″x5½″ to 15x12″, **$3** to **$10.50.** **ELBE PHOTO DISPLAY FLIP FILE EASELS** provide ideal angle for visual display. Unit lies flat in binder, rises to 45° easel position with flick of hand. Binder holds 25 acetate envelopes 11½x9⅜″, **$6.94.** **RECORD UNIT** for desk, counter-top, or reference, with flip file and aluminum base holding file at 250° angle, 5x3″ to 10x8″, 25 acetate envelopes, from **$3** to **$10**

ELBE ZIPCASE PHOTO PRESENTATIONS are made of top quality leather. Stout edging and stitching, reinforced pockets for durability. Sturdy ring mechanism with opening and closing boosters. Series 1070Z, 13¼x10½″, in brown, blue, red or green split cowhide, 2 vertical pockets, **$3.90.** Series 960-Z, 14x11″, in luggage-brown cowhide, levant grain, vertical and horizontal pocket, **$7.68**

SEECLEAR FOTOFOLIO holds approximately 168 prints, is a bookshelf type album and features transparent pockets made of genuine Ethycel, that will not discolor. Contains 48 pockets; additional pockets may be added. Pictures are always completely visible and are easily inserted in pockets. Gold-leaf stamped. The Seeclear Fotofolios are available in pastel pink, pastel blue, ivory, blue, green, red and black #10-116 SEECLEAR ALBUM for pictures up to 3½x5¼″, **$5.95;** #10-120 SEECLEAR ALBUM for pictures up to 3½x3½″, jumbo prints of reflex size pictures, **$5.95.** Additional SEECLEAR POCKETS for each of the above models can be obtained for **85¢** per doz.

TAPRELL LOOMIS ALBUMS come in many sizes, styles and prices. See us for further details & quantity prices on the complete line. Some representative models and prices given below. **PLASTIC BINDER ALBUMS** w/six leaves and flyleafs, choice of Plain cover w/bar design, Our Baby, Our Wedding or Our Children's Wedding. 4x5, **$2.25;** 5x7, **$2.40;** 8x10, **$2.85.** Extra Kodapak leaves for above, pkg. 10, 4x5, **$1;** 5x7, **$1.55;** 8x10, **$2.10.** **PROTECTO** black Mult-O-Ring binder w/12 leaves. 8x10, **$5.40;** 8½x11, **$5.50.** **Extra** Kodapak leaves, pkg. 10, **$2.10**

VPD PHOTO ALBUMS come in many different styles and sizes. **SOFT TOUCH** albums are new, budget-priced, offered in choice of 6 colors. Smooth leatherette cover with lining of color-matched simulated suede. Multo-ring mechanism; complete with 24 black mounting sheets, 11x8½″, **$2.50.** With 6 gummed mounting sheets in acetate protectors, **$3.25.** **ALBUMETTES** are handy pocket-sized albums of flexible leatherette; choice of 6 colors; hold 18 snapshots in all standard sizes. **80¢** to **$1.** **LEATHER PHOTO ALBUMS** are genuine pinseal leather; features 24 kt. gold trim. Complete with 10 acetate sheet protectors and mounting sheets. Also stamped "Our Baby" or "Our Wedding." Sizes from 5x7″ to 11x14″; priced from **$9.** Same in simulated leather, from **$4.** **MYLAR LAMINATED ALBUMS** are plushly padded; include the popular GOLD FRAME and GOLD SPATTER models. Both have distinguished, luxury look and feature gold-plated ring mechanisms, silk taffeta linings, scuff-proof, stain-proof, long-lasting covers. Complete with 6 Mylar protectors or 5 pre-gummed mounting sheets in acetate protectors, **$7.50.** **FOTO FLIP-FILE ALBUMS** feature rows of flip-up acetate envelops to hold and display prints and negatives. Luxuriously padded, metal construction, from **$5**

VPD PRESENTATION BINDERS have clear acetate sheet-protectors to give photos and other presentation material fullest possible protection. Wide selection of sizes and cover materials. PIGRAIN BINDER, 6 sizes from 8x5″ to 17x14″, from **$4.75.** PASTEL COLORED DISPLAY ALBUMS feature choice of 7 colors, from **$3.75.** JUMBO CAPACITY BINDERS are extra large, have extra sturdy ring metals to give you maximum capacity plus long wearing use. From **$6** EASEL BINDERS are available in 5 different types, solve any and all presentation problems. Sizes from 8½x 11″; priced from **$6.25**

VPD SLIDE-SHO ALBUMS. SPLENDOUR ALBUM is luxurious padded simulated leather stiff cover with wipe-clean finish. Trimmed in gold. Comes with 5 Slide-Sho pages; multo-ring loose-leaf enables you to add 7 more. When filled, album holds 240 slides. Comes in dark blue, red and brown. Size 11x8½″, **$7.95.** **DEBONAIRE ALBUM,** smooth, smartly grained flexible cover with distinctive gold design. Comes with 4 Slide-Sho pages; multo-ring looseleaf enables you to add 4 more. When filled, holds 160 slides. Comes in tan, black, red and blue. Size 11x8½″, **$4.95**

VPD SLIDE-SHO PAGES are white 11x 8½″ translucent plastic pages with twenty 2x2″ niches. Each slide is nested safely, snuggly into an individual niche—can be slipped in and out instantly. Page is punched to fit loose-leaf binders. Pages each, **75¢**

mounts

OVERTON PHOTO FRAMES are available in many sizes, styles, materials and finishes. **WALL PLAQUES** are of fine cabinet woods, come in single or multiple openings. 3¼x4¼″, 5x7″ & 8x 10″, **$3.50** to **$18;** **FAMILY GROUP,** 3 opening or single opening, up to 11x 14″, single, **$9;** 5x7″ multiple, **$10;** **WOOD FRAMES:** 3¼x4¼″ to 20x24″, **$2.50** to **$22.50.** **METAL FRAMES:** 3¼x 4¼″ to 11x14″, **$1.50** to **$21.** **MINIATURE FRAMES,** 2⅝x3⅜″ to 5x7″, single or multiple opening, **$1.50** to **$12.75.** **MULTIPLE MAT FRAMES; $2** to **$12**

SAVAGE MAT-BOARDS made of the finest quality 14 ply wood pulp center are available in 2 surface finishes; fine pebbled and antique smooth, and in 4 combinations of colors: white & buff, light gray & white, TV gray & white, and black & white. Sizes 8x10″ to 30x40″. Per 50, **$3.25** to **$45**

SAVAGE MOUNT-BOARDS are available in both "single thick" & "double thick." No. 1700 is the finest grade available. No. 1800 is both economical and useful for giant blowups. Single: package of 25, **$10** to **$50;** Double: package of 50, **$12.50** to **$50**

SAVAGE CIRCLE & OVAL MAT-MOUNTS made of pure white pebbled stock, available in single circles and ovals in 2 sizes, and in composition arrangements of 3, 4, and 5 ovals in 11x14″ over-all size. Per 100, **$35** to **$80**

SAVAGE STANDARD MAT-MOUNTS are ready-cut and have beveled openings and proportioned margins. For all prints, from 5x7″ to 16x20″, in white, buff or gray. Per 100, **$40** to **$150**

TAPRELL LOOMIS MOUNTS & EASELS are available in over 70 different styles and models. See us for further details and prices on the complete line. For example: **PRESTIGE COVERS** w/flyleaves attached, 3¼x4¼, 5x7, 7x5, 8x10, 10x8, 11x14, 14x11 per 100, **$25** to **$92.** Inserts, per 100, **$11.50** to **$110.** **COLONY FOLDERS,** 3x4, to 10x8, per 100, **$11.25** to **$34.** **GRAYTON EASELS,** w/white shadowbox, 3¼x4¼ to 10x8, per 100, **$24.75** to **$62.** **LYNWOOD DRIMOUNTS,** per 100, **$15** to **$42.50.** **DECKLE FOLIOS,** 5x7 to 11x14, per 100, **$12.25** to **$29.50**

PRESTIGE COVERS 3¼″ x 4¼″ to 14 x 11″, per 100, **$25** to **$92;** **PRESTIGE INSERTS** 3¼″ x 4¼″ to 20 x 16″, per 100, **$1.50** to **$73;** **PRESTIGE JACKETS** for inserts .010 acetate, 11 x 14″ -16 x 20″, **$60** to **$125.** **COLONY FOLDERS** 3 x 4″ to 10 x 8″, **$11.25** to **$34;** **GRAYTON EASELS** 3¼ x 4¼″ to 10 x 8″, **$24.75** to **$62;** **DECKLE FOLIOS** 5 x 7″ to 10 x 8″, pkg. 50 to 100, **$12.25** to **$19.50.** **BIRTH ANNOUNCEMENTS** with mailing envelopes 2 x 3″, pkg. 500, **$5;** **MULTI PURPOSE FOLIOS** of 6 leaves, 4 x 5″ to 8 x 10″, pkg. 12, **$75** to **$150;** **PROOF BOOKS** 3½ x 5″ to 8 x 10″, pkg. 10, **$25.50** to **$45;** **THANK YOU FOLDERS** with mailing envelopes 2 x 3″, pkg. 100, **$7;** **SHADOWBOXES** 3¼ x 3¼ to 14 x 11″, pkg. 100, white, **$5** to **$14;** colors, **$6** to **$17;** **PHOTO MAILERS** size AG to HxG, pkg. 25 to 50, **$9.25** to **$48.50;** **MAILER DISPLAY** ea., **$6;** Regular school Seals, **$4.95** per 1000; **PLASTIC BINDER ALBUMS** 4 x 5″ to 8 x 10″ ea., **$2.25** to **$2.85**

coloring

GRUMBACHER PHOTOTINT OIL COLORING SET is used for adding natural color to black and white photos. Complete outfit includes oil colors, tube of Medium, dabber sticks, cotton, Grumbacher highlight producer, 32-page instruction booklet. 20-tube set **$7;** 8-tube set **$3.75**

MARSHALL PHOTO-OIL COLORS AND PENCILS are professional, permanent materials used to hand-color photos. Can be used on glossy, matte and Polaroid prints, as well as transparencies. Regular series, 33 colors; Extra-Strong series, 16 colors. 2″ tube, **35¢;** 4″ tube, **$1.** Pencils are imported from France, can be used over oils or alone; specially suitable for small areas and snaps. 18 colors available as complete set for **$4.98.** Complete line of accessories for Photo-Oil work available. Sets from **$1.65** to **$14.95.** 42-page Manual for coloring with Marshall Photo-Oils, **50¢.** Complete book on technique, **PHOTO-OIL COLORING FOR FUN OR PROFIT, $3.95.**

MARSHALL'S SPRAY GLASS is a crystal-clear LIFETIME glossy fixative especially formulated to protect, preserve and beautify all photographs, drawings, art work and documents. 6 oz. can, **$1.25;** 16 oz. **$2.25.** **MARSHALL NEW PRE-COLOR-SPRAY** enables you to color glossy photos, Polaroid prints, transparencies, magazine and newspaper pictures with Marshall Photo-Oil Colors and Pencils. **PRO-TEK-TO SPRAY,** a LIFETIME non-glossy fixative for oil colored photos, Polaroid prints, art paintings, glossy photos, matte photos, graphic arts, murals, etc. Eliminates glare and reflection. 16 oz. can, **$2.25;** 6 oz. can, **$1.25.** **SPRAY-GLASS,** a LIFETIME glossy fixative for oil colored photos. Polaroid prints, art paintings, glossy photos, matte photos, graphic arts, murals, etc. Gives the protection of glass without its disadvantages. 16 oz. can, **$1.98;** 6 oz. can, **$1.25**

WEBER LIQUID TRANSPARENT WATER COLORS come in 12 spectrum colors and black. Smooth-flowing, non-corsive, ready for use with brush or air brush. 4 oz., each, **65¢**

WEBER PHOTOCOL MEDIUM, mat and gloss, is used with oil colors to prepare them for use on photos. ¾oz., **50¢.** **RES-N-GEL** Painting Medium is a transparentizing medium for use with oil colors in tinting photos or photo murals. 1x6″ tube, **95¢**

WEBER PHOTOCOL OIL COLOR SETS are used for coloring photos, lantern slides, transparencies with oil colors. Outfit #1, 12 tubes, Photocol Mat, Photocol Gloss, absorbent cotton, sticks, **$3.95**

paper trimmers

BIENFANG METO-CUT TRIMMERS are available in sizes to cut sheets up to 59″ wide. Using a revolutionary type roller cutter made of long lasting tempered steel, it cuts paper. cardboard, plastic sheets, metal foils, thin leather and linen. Material is clamped when cutter is moving. 24″, **$115;** 51″, **$135;** 59″, **$155**

CHANDLER "ALL STEEL" PAPER TRIMMERS have all-steel base and blade. Ruler is graduated in 16ths; transparent plastic strip, ruled vertically and horizontally, holds paper securely in place. Straight-edge models 6″, **$4.95;** 10″, **$6.95;** Deckle-edge models: 6″, **$6.75;** 10″, **$12.75**

INGENTO HEAVY DUTY CUTTERS cut heavy cardboard, leather, rubber, even light sheet metal. Socket in which upper blade pivots is part of sturdy iron casting that runs entire length of blade bed, keeps blade in alignment. With paper guide. #5, 15x15″, **$21.25;** with guard **$22.50;** #6, 24x24″, **$43.50;** with guard, **$45.** **INGENTO TABLE MODEL PAPER CUTTERS,** packed with legs detached: #7, with paper guide, safety guard rail, mounted on table, 30x30″, **$80;** #8, without table, **$62.50.** #9, 36x30″, **$140.** **INGENTO TRIMMERS** are designed especially for photographic use. Handy paper guide; tension spring holds blades together only at point of cutting; both blades made of tool steel; safety guard rail. Dovetail cleats make unit completely rigid. Bed permanantly groove-scored in half-inch squares. Standard ruler with ⅛″ graduations is separate unit. Handy paper guides. #1, 6½″, **$6.50.** #2, 8½″, **$7.50;** #3, 10½″, **$8.50;** #4, 12½″, **$11,** with guard, **$11.75**

JACQUES BENCH SHEARS mount easily for straight or angle cutting. Rugged cast iron frame, composite steel blades w/high carbon tool steel edge. Cast iron balance weight holds blade ready for cutting. Optional foot pedal operated holding clamp. 13 sizes from 24 to 120", **$231** to **$1,334**; with foot operated clamp, **$247** to **$1,387**. Special left hand shears w/o clamp, 80", **$856**; 90", **$982**; w/clamp, **$1,035**

JACQUES JR, ALL-METAL CUTTERS are ideal for paper, rubber, plastics, etc. Exclusive self-adjusting clamp, faced with sponge rubber, automatically comes down as blade is lowered. Clamp acts as safety device. Available in table or bench models. TABLE MODELS have steel rule measure and adjustable gauge. Warp-proof table surfaces available in plain or w/½" square markings. 16x16", **$115**; 20x20", **$137**; 24x24", **$154**; w/floor stand, **$198**; 30x30", **$176**; w/floor stand, **$231**. **BENCH MODELS** are ideal for cutting roll or strip material. May be permanently mounted, 24", **$121**; 30", **$154**; 36", **$198**; w/floor stand, **$330**

JACQUES UNIVERSAL SHEARS are designed for accuracy, performance and service. Will cut paper, leather, cardboard, plastics, cork, mica, rubber, cloth, asbestos, fibreboard and linoleum. Standard model has rigid, welded steel base, heavily reinforced. Kiln dried birch 36" tables are mounted on heavy cast iron bed. Adjustable table gauge locks parallel to blade. Back gauge adjustable up to 20", has spring gauge for narrow work. Composite steel blade with high carbon tool steel edge, easily removable for sharpening, is balanced for ease of operation. Foot clamp adjustable to stock thickness being cut. Also available as solid table w/o gauges. **STANDARD MODELS:** 30", **$767**; 40", **$867**; 45", **$935**; 50", **$987**; w/o gauges, **$593** to **$772**. **HEAVY DUTY MODELS:** 55", **$1,150**; 60", **$1,287**; w/o gauges, **$898** to **$1,088**

KUTRIMMER, combination paper cutter and trimmer cuts up to 50 sheets. Features measuring device for split-inch accuracy; hand-operated paper clamp which can be swung aside for special cutting; front gauge with paper support for single sheet cutting; high quality steel knife. Available in 4 sizes: 14½", 21⅝", 27⅞" and 31⅜". (The last two sizes also available in treadle-operated floor models complete with stand.) From **$59.50** to **$325**

MILTON BRADLEY TRIMMERS—line of 7 models. Easy-lift, precision cutting, modern styling. No adjusting—always ready to use. Hardwood table-top with ½" ruled lines cut into surface. Ruler in 16ths. Rubber cushions prevent skidding. New compression spring for easy blade operation and uniform lift. Cutting blade of fine steel with hook to hold in horizontal position when not in use. New 2-tone gray color. Guide for volume work, and safety guard optional extras.

MODEL	Size	REGULAR	W/GUIDE
Dandy	8x8"	$ 6.50	$ 7.00
Studio	10x10"	8.20	8.80
Monarch	12x12"	10.40	11.00
Popular	15x15"	19.50	20.50
National	18x18"	26.50	27.70
Springfield	24x24"	41.50	43.00
Hampden	30x30"	63.00	none

(unruled table..............**$58**)

NIKOR SAFETY TRIMMER has unique rack and pinion cutter. Metal scale and fine precision lines are cut into base. Accurately ground guide and cutting wheel. Smooth honing action of rolling wheel keeps it true and in alignment over entire length of blade. Anodized aluminum base. Precision-ground steel guide rod is supported by one-piece steel bracket, accurately machined and held in place by machine screws. 12", **$19.95**; 16", **$29.50**; 20", **$39.95**; 24", **$52.50**. **Accessories:** Pressure Plate: 3½" lucite, spring mounted for holding material flat. Thumb screw mounted. 12", **$5.05**; 16", **$7**; 20", **$7.05**; 24", **$7.45**. Trimming Guide Bar; permits cutting quantities of material to fixed width desired. Thumb screw mounting. 12", **$1.65**; 16, 20 or 24", **$1.95**

PREMIER CUTTING BOARDS in sizes from 8 to 30" have accident-proof, precision operating features. Can be had with wood or metal base. Automatic paper clamp keeps material in position. Permanent, accurately scored half inch squares. Hollow ground, self-sharpening removable blade. "Non-Drop" safety knife, automatic guard rail, completely accident proof. Adjustable vertical guide for absolute square alignment. Cuts everything from feathers to light metal. **$6** to **$55**

"TRIUMPH" OFFICE PAPER CUTTER is available in 2 sizes: 14" and 18". The frame is all-metal. A front wheel calibrator automatically moves the back-gauge to divisions of 1/32" to ½". The cutting thickness in the 18" model is 3¼" and in the 14" model, 1⅝", 18" model cutting width: 18¼", 14" model, 14¼". 14" model measurements: 23½x23¼x35"; (complete height including handle); wt. 72 lbs. 18" model: 31x30¼x48"; wt. 170 lbs. 14" model, **$269.** Matching metal stand, **$49.** 18", **$389.** Matching metal stand, **$69**

stamping press

CALLEN GOLD STAMPING PRESS does not require heat or electricity. Two line name and address plate included with each press. Prints one inch from bottom edge of photo or mount. Will print on 23k/gold foil, silver, black or colors. **DESK MODEL;** w/gold leaf roll holder, **$15.98;** w/removable plates for interchanging name plates, **$18.98. DELUXE MODEL;** has lacquer finished top work table with adjustable side and bottom guides, **$22.98;** w/removable plates, **$25.98;** Table only, **$7;** Extra plates, ea., **$5;** 100' roll printing foil (approx. 1000 prints), as above, **$5.75**

adhesives

DAB-N-STIK ADHESIVE will quickly and permanently stick together any kind of paper, leather, or fabric. Just a slight pressure of the Dab-N-Stik dispenser on the working area will produce a dab of the miracle Lemil adhesive. 4 oz. bottle, **$1**

KODAK RAPID MOUNTING CEMENT for mounting prints rapidly and permanently on any dry, clean surface. Cement produces a flexible, lasting bond. Tube, **55¢**

SANFORD'S GRIPPIT PAPER CEMENT is a permanent adhesive that sticks flat and will not wrinkle or curl the thinnest papers. Clean and transparent. Excess rubs off easily, leaving no mark or stain. Perfect for scrapbooks and albums. 4 oz., brush in cap, **59¢;** pint, **1.35;** quart, **$2.75;** gal., **$9**

SANFORD'S RUBBER CEMENT is a superior rubber cement made of 100% pure Crepe Rubber; contains no smoked rubber or substitutes. Stainproof and transparent. Non-coagulating when spread. Excess cement can be rolled up by gently rubbing with the fingertips. Sticks tight but lifts up easily. When thinned, an excellent cement for frisketing. 4 oz., brush in cap, **45¢;** pint, **$1.05;** quart, **$1.75;** gal., **$5.26**

THINNER FOR GRIPPIT AND RUBBER CEMENT is a solution for thinning both paper and rubber cement when they become thick due to evaporation, or when a thinner cement is required. 4 oz., **25¢;** pint, **65¢;** qt., **$1;** gal., **$2.75**

SPRAY MOUNT is a spray-on, dry-mounting material in aerosol can. Permanently bonds photos, art reproductions, etc. to most surfaces. Eliminates tissue bleeding, blisters, wrinkles and staining. Thermoplastic composition remains transparent, flexible and waterproof indefinitely. Requires no "tooth," bonds equally well to glass, paper, leather, wood or metal; impervious to heat and humidity; prints can be bent or flexed without separating from the mount. 8 oz can, **$1.59**

UNION "BEST TEST" is a white rubber cement made from special premium quality natural crude rubber treated and blended to an exclusive formula. Ideal for paper joining. 2¼-oz. tube **30¢;** 4-oz. "brush-in-cap" can **45¢;** half-pint "brush-in-cap" can **70¢;** pint can **80¢;** quart can **$1.35;** gallon can **$3.95;** 5-gallon drum **$18.50**

UNION "BEST-TEST" RUBBER CEMENT DISPENSERS are air-tight, easy to open. Sliding brush can be adjusted to cement level. Non-rusting metal parts. 9-oz., **$1.75;** 16-oz., **$1.95**

UNION "BESTINE" SOLVENT, for thinning and reducing rubber cement, contains no benzol or other toxic liquids. Excellent for frisket work, for cleaning metals, etc.; gallon cans have "kork-n-seal" closure caps with handy lever; cannot freeze to pouring spout. Pint **50¢** Gallon **$2.10;** Quart **80¢**

UNION "URACER" for quickly removing misplaced or excess rubber cement. Made in tape-like layers, can be peeled off to get clean surface and sharp edges. Individually boxed, **50¢**

mounting presses & irons

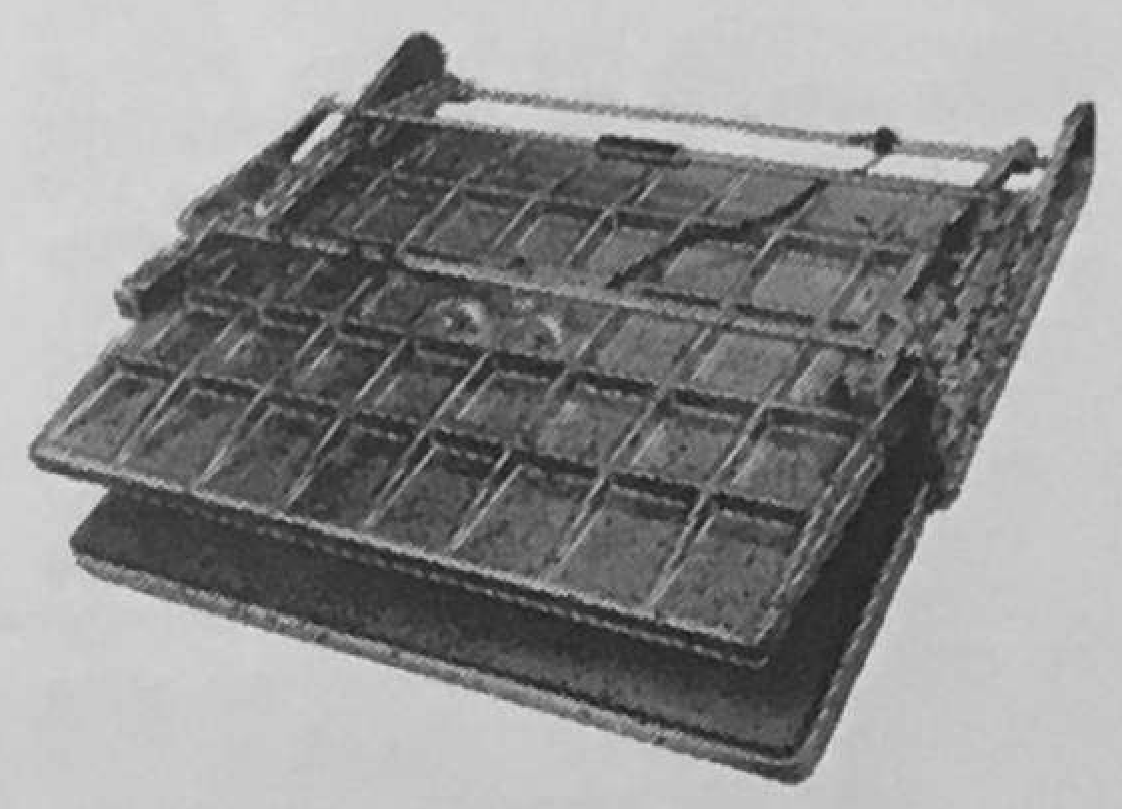
KODAK SLIDE MOUNTING PRESS. MODEL 2. A compact and versatile press for large-volume mounting of color transparencies. Accessory removable jaws, supplied separately for use with various size transparencies. A numbering attachment to emboss numbers onto the mounts is also available, **$6.95.** Adapter jaw for 35mm and 828 transparencies, **$95;** for Super Slides (1⅝x1⅝"), **$95;** for stereo mounts, **$95;** for 2¼x2¼" transparencies, **$125;** for 2¼x3¼" transparencies, **$125.** Kodak Automatic numbering attachment, **$395**

KODAK TACKING IRON used to tack mounting tissue to the print and to the mount. This holds the print in position until it can be mounted on a dry mounting press, **$20**

FOTOWELDERS are lightweight, thermostatically controlled hand mounting irons. Baby welder **$2.75;** #10 welder **$4.95;** #2 welder **$11.95**

FOTO-FLAT TWIN WEIGHTS make mounting and flattening of prints simpler, cleaner, faster and safer. Eliminates troublesome job of piling up clumsy weights. Twin Weights are perfectly balanced, making handling easy, effective and save time. Made of heavy, quarter-inch steel plate in 2 convenient sizes, 9x12" (weight per set, 13 lbs.), **$16.75;** 12x15" (weight per set, 23 lbs.) **$19.75**

SEAL DRY MOUNTING PRESSES are dependable equipment for mounting photographs, blue prints, documents, records, maps, charts, photostats, clippings. Highest quality electrical controls, 110-volt AC outlets. Lightweight, compact, easily handled. Sealector heat sealing iron included at no charge as a tacking iron with all presses except the Jr. model, **MASTERPIECE** model: platen measures 26x32" and will handle prints as large as 24x30" in one operation. **$359.95. COMMERCIAL** model: platen measures 18½x23", has 425 sq. inches of heating area. Mounts 16x20" prints in one operation, as large as 36" wide, any length in sections. Adjustable thermostat 180° to 350°; built-in automatic timer. For color prints, delicate materials, in addition to standard weight prints. **$199.95.**



JUMBO model: same, but has 15x18½" heating platen, mounts prints up to 36x108" in sections. **$153.95. STANDARD** model: same platen size as above but with print-size limit of 16x20". **$128.95. JUNIOR** model: handles 8x10" prints in one operation, up to 16x20" in sections. Automatic thermostatic control; pilot light announces when press is ready for use; adjustable pressure control. Baby welder included at no charge. **$61.95**

SEALECTOR TACKING IRONS are heavy-duty units with adjustable temperature control that can be used for tacking low melting point tissues to delicate materials as well as the higher melting point tissues, by simply turning finger-tip control. Unit has 165W heating element for rapid heat recovery and is equipped with air-cooled handle. Supplied with handy stand to hold iron. Standard model with polished aluminum sealing surface, **$7.95.** Deluxe model with plastic long-wearing, non-stick heating surface molded to base, **$8.95**

mounting tissues & cloth

CHARTEX DRY MOUNTING CLOTH is dependable backing material which is applied without elaborate equipment. Just iron to back of map or print with household flatiron, or use dry mounting press. 8x10" sheets; doz. **$1;** 100, **$6.90;** 8x11"; doz., **$1.05;** 100, **$7.25;** 9x10"; doz. **$1.05;** 100 **$7.45;** 8½x11"

continued on next page

doz.; **$1.05;** 100, **$7.55;** 9x12″ doz.; **$1.05,** 100, **$8.15;** 11x14″ doz.; **$1.50;** 100, **$11.35;** 12x18″ doz.; **$2.15;** 100, **$16.45;** 18x24″ doz., **$4.30;** 100, **$32.75.** Rolls: 36″ wide; 25′, **$9.65;** 50′, **$17.65;** 100′, **$32.75;** 42″ wide; 25′, **$10.95;** 50′, **$20.65;** 100′, **$38.95**

FOTOFLAT MOUNTING TISSUE is easy working material, can be applied with dry mounting press or hand iron. Requires comparatively low mounting temperature; easy to remove if change of mount is desired. 2½x3½″, 36 sheets, **25¢,** gross **65¢;** 2¾x4½″, 36, **25¢; gr., 75¢;** 3½x5¾″, 30, **30¢;** gr.. **$1.15;** 4x5″, 36, **30¢,** gr., **$1.15;** 5x7″, 12, **30¢,** gr., **$2.05;** 8x10″, 12, **45¢,** gr., **$3.75;** 11x14″, 12, **75¢;** gr., **$7.25;** 14x 17″, 12, **$1.25;** gr., **$12.45;** 16x20″, 12, **$1.50;** gr., **$14.65;** Rolls: 100′x16″, **$6.85;** 100′x32″, **$13.65**

HOLLISTON PHOTO CLOTH is specially prepared self-adhesive fabric for mounting or backing photographs, photo copies, blue prints, etc. Produces cloth-backed prints which won't curl or fray. Simple to use; has no odor; not affected by climatic conditions. Available with one side adhesive, or both sides (for mounting prints, checks, documents, etc., back to back). White or linen-finished grey in 7 standard sizes, boxes of 100 or 500 sheets, ask for our price list. 40 yard rolls, 36″ wide. **55½¢** per yd.

KODAK DRY MOUNTING TISSUE for mounting prints on displays, mountboards, portfolio pages, etc., with a mounting press or flat iron. Tissue provides permanent bond. 4x5″, 150 sheets, **$1.15.** 5x7″, 25 sheets, **45¢;** 150 sheets, **$1.85.** 8x10″, 25, **80¢;** 150, **$4.10;** 11x4″, 25, **$1.40;** 150, **$7.70;** 14x17″, 25, **$2.10;** 150, **$11.80.** 16x20″, 25, **$2.75;** 150, **$15.85.** Rolls, 10-yards, 20″ wide, **$3.30;** 10-yards 40″, **$5.50**

SEAL MT5 TISSUE is new dry mounting development, requires only 5 sec. in press, ideal for mounting materials heretofore considered unsatisfactory. Heavy coating of strongest seal adhesive known assures proper bond. Does not require inter-leaving tissue between sheets, eliminating need for removing and disposing wax paper. Withstands excessive heat and humidity changes. 100-sheet packages: 5x7″, **$1.25;** 8x10″, **$2.55;** 11x14″, **$4.85;** 14x17″, **$7.55;** 16x20″, **$9.95.** 500 sheet packages: 5x7″, **$5.85;** 8x 10″, **$12.25;** 11x14″, **$22.95;** 14x17″, **$35.95;** 16x20″, **$47.45.** Rolls: 20″x10 yds., **$2.35;** 20″x50 yds. **$10.95;** 40″x10 yds., **$4.55;** 40″x50 yds. **$20.95**

laminating film

SEALAMIN, new laminating film which can be applied with Seal dry mounting press. Available in rolls 11⅛″ wide x 200′ long. This will laminate 140 8½x11 prints on two sides. 200′ roll, **$13.65.** Also available 20″x200′ roll, **$24.75**

corner rounder

CORNEROUNDER for rounding corners of prints and negatives, either singly or through ½″ stack of prints per stroke. Shear-action, self-sharpening (upper and lower knives) design. Automatic chip disposal; no cutting blocks used. Units plug-in and lift out. Machine prices include one cutting unit. **Portable Model 20,** hand-lever actuated, takes stock sizes up to 8½x11″, **$25. Foot-power Model 50,** heavier mounting freeing hands for added speed and cutting ease. Rate: 50,000 corners per hr. Table: 15″ square, height, 35″, **$78.** Both models use interchangeable cutting units of ⅛, ¼, ⅜ and ½″ radii, each **$9**

miscellaneous mount materials

ADAMS MAGIC CROPPER is a variable cropping or masking device. Adjustable-frame principle shows different compositions obtainable from any proof. Made of styrene; sections slide in and out smoothly, always retain proper proportions. Calibrated. Choice of 4x5″ or 5x7″, **$4.95**

BRAQUETTES AND QUICKFRAMES are quick-change adjustable frames that fit any decor, hold pictures up to three feet high and take as little as 10 seconds to snap on and hang. Hold the heaviest glass. **BRAQUETTES** hold pictures up to three feet high, available in Lucite or polished, durable stainless steel, channels are lined with slip-proof sponge rubber. **$1.50. QUICKFRAMES** hold pictures up to two feet high, metal finished in black or brass. Instantly adjustable by spring tensioned bead chain and convenient safety lock, **$1**

KODAK BACKGROUND SHEETING, for diffusion of light required in displaying color transparencies. Two or more large sheets can be joined by means of splicing tape and cement. Available in rolls, 40″x100′. Per roll, **$101.10. KODAK SPLICING TAPE,** for joining two or more sheets of Kodak Background Sheeting or Kodak Ektacolor Print Film. Available in rolls, 2¾″x200′. Per roll, **$10.75. KODAPAK SLEEVES** protect color transparencies and black-and-white negatives from scratches and finger marks. In packages of 100. 2¼x2¼″, **$1.85;** 2¼x3¼″, **$1.90;** 2½x3½″, **$1.95;** 3¼x4¼, **$2.30;** 4x5″, **$2.75;** 5x7″, **$3.75;** 8x10″, **$6.85;** 11x 14″, **$10.45**

KRYLON PLASTIC PRINT COATING is protective coating that dries almost instantly. Waterproofs and protects photographs, drawings, sketches, etc. Comes in 6 and 16-oz. pressurized dispenser with non-clogging valve, protective cap. 6 oz. can, **98¢;** 16 oz. can, **$1.95**

PASSE PARTOUT BINDING is extremely strong embossed paper with heavy gumming for permanent adhesion. Sticks firmly to glass, wood, cardboard and cloth. Ideal for framing pictures. 10yardsx⅞″roll. Black, white, brown, blue, crimson, Chinese red, green, **30¢.** Gold or silver, per roll **35¢**

SAVAGE PHOTOMAILERS are ready-to-mail, properly printed and designed in accordance with all Postal Regulations. Available in 8 standard sizes. Per 100, **$10** to **$22**

TRU-SITE NON-GLARE PICTURE FRAMING GLASS by Seaboard Glass Corp. is a framing glass which eliminates that annoying light reflection which distorts the image and mars the appearance of photos, watercolors, and photo murals framed with ordinary glass. Sizes and prices on request.

X-ACTO MAT CUTTER & BEVELER KNIFE GUIDE No. 110 permits foolproof cutting up to 30″. Makes perpendicular and beveled cuts. Of lightweight magnesium. **$9. X-ACTO NO. 3M PEN KNIFE** clips to pocket has metal barrel, metal blade lock. With No. 10 Blade, **$1.** No. 1G Safety-Guard Knife, with No. 11 Blade, **$1.20.** No. 2G Safety-Guard, with No. 22 Blade, **$1.50**

BOOKS

Photography is a living, changing, growing craft. Any photographer who wants to enlarge his scope must do considerable reading to keep up with the times. Standard reference works, such as Photo-Lab Index and the Kodak Color and Reference Handbooks, belong in the room where the photographic work is being done. These are tools that are as important as the camera, lens and film. New, important books on specialized subjects and techniques are being published continually. We will gladly furnish complete information on any book.

HOW TO MAKE GOOD PICTURES is a complete handbook on the fundamentals of "still" photography for the amateur. Paper-bound, **$1;** case-bound, **$1.95. HOW TO MAKE GOOD HOME MOVIES** points the way to real pleasure in the taking and showing of amateur movies. Paper bound, **$1. KODAK AERIAL EXPOSURE COMPUTER** contains Time-Motion Dial and Exposure Dial, a typical aerial exposure problem and its solution, **$2.50. KODAK REFERENCE HANDBOOK, VOL. 1,** Black and white picture taking, **VOL. 2,** B & W processing and printing, ea., **$4. KODAK COLOR HANDBOOK $5. KODAK INDUSTRIAL HANDBOOK, $4. PRINCIPLES of COLOR PHOTOGRAPHY. $13.50, RADIOGRAPHY IN MODERN INDUSTRY, $5. PHOTO CHEMISTRY IN BLACK and WHITE and COLOR PHOTOGRAPHY, $125**

EYE, FILM AND CAMERA IN COLOR PHOTOGRAPHY by Ralph M. Evans. The first major work to apply the psychology of vision to photography. The author points out that what an observer sees when he looks at a scene can be and usually is very different from what he sees when he looks at an "accurate" color photograph of that scene. He shows what these differences are and how the photographer may either offset them or make use of them for his particular purposes. 16 pages of color. 410 pp. 14 illustrations. **$8.95**

FOCAL ENCYCLOPEDIA OF PHOTOGRAPHY. Covers the entire technology of photography and follows up all its uses for picture making. A master reference work that belongs in every library. 1,298 pages, 2,000 articles on every aspect of photography. 1,500 pictorial diagrams. Written by 197 experts from 23 countries. A photo library in one volume. **$6.95**

PICTURES IN A MINUTE, The Polaroid Land Camera Book by John Wolbarst. A complete guide on the operation of the Polaroid Land camera, and the many new concepts of picture making opened up by this remarkable camera. Discusses all new Polaroid film cameras, wink light and electric shutter. Over 190 pages, 350 illustrations. Paper, 3rd edition, **$1.95**

SENSITOMETRY, by Lobel and Dubois, Two leading emulsion scientists start by explaining fundamentals, and go on to discuss meaning of graphs, curves, and data sheets on film, plates, and paper. Wherever industrial, or other applied photography is done, testing and measuring of photo materials make this a "must" book. **$5**

PHOTO DICTIONARY by Morgan & Morgan. Paper, **$2.50;** cloth, **$3.50**

PHOTO-LAB INDEX, by John S. Carroll. Largest single collection of photographic facts and data. Saves costly trial and error with 24 complete, authentic sections on films, papers, developers, color lighting, optics, chemicals, movies, television, copying and processes of leading world manufacturers. Over 1400 looseleaf pages, huge index, heavy tabbed index guides, special heavy-duty prong binder. Complete, boxed. Quarterly Supplements available to keep the Photo-Lab Index up to date. **$19.95**

GRAPHIC-GRAFLEX PHOTOGRAPHY. For Prize Winning Pictures, by Willard D. Morgan and 16 contributors. All the best ways to make prize-calibre pictures—whether for family and personal use, or professional sale and publication. Seventeen chapters by experts, illustrated with hundreds of photographs and drawings, plus dozens of useful charts, diagrams and tables. Magnificent portfolio of 33 prize-calibre photographs with 19 in full color, 256 large 7½x10 pages, over 360 pictures including color, boxed, **$6.95**

LINHOF PRACTICE is a 200-page comprehensive manual of large-format photography with special emphasis on all applications of any Linhof camera. 400 illustrations, diagrams, charts. 9¼x 11½″, bound in smudge-proof varnished cover. **$7.95**

FUNDAMENTALS OF PHOTOGRAPHIC THEORY by T. H. James and G. C. Higgins. New completely revised edition of a basic text covering theory of the photographic process based on fundamental chemical and physical concepts. Covers everything that happens to a film from exposure through development, fixing washing and the making of prints. Theory of color photography, color sensitometry and the formation of dye images. Extensive references, optical terminology. 352 pages. **$7.50**

MINIATURE AND PRECISION CAMERAS by S. J. Lipinsky. A detailed and thorough study from an engineering point of view of the mechanisms and problems involved in the design of modern precision cameras. A technical book for photographers whose work requires unconventional use of their cameras. 292 pages. **$7.95**

CAMERA AND LENS: STUDIO, DARKROOM EQUIPMENT, by Ansel Adams. Camera and lens selection, operation and use; darkroom design and construction; accessory choice; all help the photographer to invest wisely in equipment **$3.75**

ROLLEI MANUAL by Alec Pearlman. Detailed work covering commercial aspects as well as basic amateur problems, 395 pages, 260 illustrations, hard covers, **$7.95**

THE TECHNIQUE OF FILM EDITING by Karel Reisz. This book represents the pooled knowledge of ten distinguished members of the British Film Academy. It is a symposium of their practical solutions to creative problems of film making. 288 pages, **$7.50**

PHOTOGRAPHY AND THE LAW, by George Chernoff and Hershel Sarbin. A lucid handbook for amateur and professional photographers, explaining the law as currently interpreted in the courts, answering all legal questions. **$1.95;** cloth, **$3.50**

SENSITIZED GOODS

KODAK PRODUCTS FOR BLACK & WHITE PHOTOGRAPHY

The eminence of Kodak sensitized goods is a direct result of the planned effort that goes into their research and production. During the more than half a century that they have been available to the professional trade, all have established for themselves an enviable reputation.

Insistence upon films, plates and papers in the familiar yellow box is your continuing assurance of unsurpassed quality, uniformity, reliability.

◆

black & white sheet films

KODAK SUPER PANCHRO-PRESS FILM, TYPE B, is one of the most versatile films in the Kodak line. It is equally popular with portrait, commercial, and press photographers. It has high speed, excellent color balance, and wide latitude in exposure and development. Super Panchro-Press, Type B, performs equally well with daylight, tungsten, fluorescent, electronic flash, and photoflash illumination. ASA Rating, 250.

KODAK SUPER-XX PANCHROMATIC FILM is a medium-speed, Type B panchromatic film having fine grain and wide exposure and development latitude. An excellent film for all-round use in portrait and commercial photography. Super-XX is recommended for color-separation negatives. ASA Rating, 200.

KODAK ROYAL PAN FILM. A remarkable film of recent introduction incorporating a giant step forward in basic emulsion-making science. Great speed has been accomplished with excellent image sharpness or acuity and with no increase in graininess over popular films of slower speed. Royal Pan has excellent gradation characteristics with extraordinary exposure latitude. Royal Pan has an ASA rating of 400. It has been a most popular all-purpose cut sheet film since its introduction.

KODAK ROYAL-X PAN FILM is an extremely fast panchromatic film three or four times faster than Kodak Royal Pan. While a film of this speed is not intended as a general-purpose film, it is invaluable to press, commercial, and industrial photographers for negative making under very poor lighting conditions or when highest shutter speeds or smallest lens openings are essential. The ASA index of this film is 1250. An index of 1600 or higher can be used on many low-contrast subjects, especially if accompanied with extended development. Full exposure and processing instructions are included in each package. As would be expected, the grain size is somewhat larger than that in slower films. Generally, enlargements up to 5 or 6 magnifications will not show objectionable graininess.

KODAK TRI-X PANCHROMATIC FILM is faster than Super Panchro-Press, Type B, with either daylight or artificial light. It has a Type C sensitizing, providing increased red sensitivity. Tri-X Pan has the ability to produce excellent quality negatives over a wide range of lighting contrast. It is popular as a portrait film where its higher red sensitivity can help to minimize necessary retouching. It is also valuable in commercial and illustrative photography when higher red sensitivity or a very long-scale emulsion is indicated. Tri-X Pan sheet film has a rating of ASA 400.

KODAK PORTRAIT PANCHROMATIC FILM is a very popular film for portrait photography. The Type B sensitizing of this film gives excellent rendering of delicate flesh tones with incandescent light. It is also finding great popularity when used with electronic flash in portrait photography. Its moderate speed permits the use of wider apertures preferred in this field of work. It is excellent when used with soft-focus portrait lenses which require larger apertures to obtain desired soft-focus effects. The long-scale sensitometric characteristics of Portrait Panchromatic Film have made it popular for many years in general commercial photography. The ASA rating is 125.

KODAK PANATOMIC-X FILM is an extremely fine-grain film of highest quality. It has a brilliant Type B emulsion of moderate speed, especially suitable for commercial photography indoors or outdoors. The extremely fine grain of this film recommends it for original and copy negatives to be used for photomurals and other large-scale prints. Panatomic-X is excellent as a panchromatic continuous-tone copy film and is a preferred material for making intermediate positives and duplicate negatives. Panatomic-X has an ASA rating of 64.

KODAK ROYAL ORTHO FILM. A high-quality film for all work requiring a high-speed film of orthochromatic sensitivity. It is equally well suited to portrait, commercial, and press photography and is especially valuable in character study portaits of men. It has excellent exposure and development latitude with a speed higher than that of many fine panchromatic films. The ASA rating is 400.

KODAK SUPER-SPEED ORTHO PORTRAIT FILM has long been popular because of its exceptionally long-scale gradation. It is especially valuable in portraiture, particularly in character studies of men. It is capable of rendering excellent flesh tones with brilliant highlights and full shadow detail. Super-Speed Ortho Portrait Film has been widely used in copying and making intermediate positives from contrasty originals. It can be used to great advantage in commercial work, where maximum shadow detail is important.

KODAK COMMERCIAL, KODAK COMMERCIAL MATTE, KODAK COMMERCIAL ORTHO FILMS—These films have emulsions of medium speed, capable of producing brilliant negatives. They are especially suitable for copying continuous-tone subjects and for general commercial work whenever panchromatic sensitizing is not required. Commercial Film is blue sensitive only and is useful for copying and other purposes where a noncolor-sensitive film is necessary. It is also widely used for making intermediate positives and duplicate negatives when the use of a red safelight is desired. Commercial Matte is similar to Commercial but has a matte emulsion and a matte backing to permit pencil retouching on either side without using retouching fluid. Commercial Ortho is useful for copying black-and-white originals and for photographing light-colored furniture.

KODAK CONTRAST PROCESS ORTHO, KODAK CONTRAST PROCESS PANCHROMATIC FILMS—These films have extremely high contrast and fine grain and are intended for making line copies. They render sharp separation of light and dark tones and produce extremely clear lines. Contrast Process Ortho is useful for copying black-and-white originals and certain types of colored copy, such as telegrams, maps, and drawings—where yellow, green, or blue-green hues predominate. This film can be used with any of the yellow filters. Contrast Process Panchromatic is sensitive to all colors and is recommended for copying colored originals such as maps, drawings, or documents which have been drawn or printed with colored inks. Both of these films can be used with diluted developers for copying faded originals of low contrast.

KODAK GRAVURE COPY FILM is ideal for copying all continuous-tone material. It has the desirable characteristic of producing great highlight brilliance in copy negatives. It is especially valuable in copying continuous-tone composites including lettering and composite industrial subjects. This film's unique sensitometric characteristics make it the first choice of professional and commercial photographers and others engaged in copying photographic prints.

ELECTRONIC FLASH OR KODATRON-TYPE ILLUMINATION—With the increasing popularity of electronic flash illumination for portrait and commercial photography, photographers often ask which Kodak film is the best for this type of illumination. All Kodak films can be used successfully with electronic flash and will produce excellent-quality negatives when correctly exposed and developed. Kodak Portrait Panchromatic Film and Kodak Super Panchro-Press, Type B, are two types which are widely used for portraiture with electronic flash. The slower Portrait Pan permits larger apertures preferred for adult portraiture, while the more rapid Super Panchro-Press, Type B, is excellent for children's portraits or formal bridal work where somewhat smaller apertures are preferred. If still smaller apertures are desired for children, Kodak Royal Pan or Kodak Tri-X Panchromatic would be indicated. Super-Speed Ortho Portrait Film yields outstanding results in character studies of men with electronic flash. In commercial and industrial applications, Kodak Royal Pan or Royal-X Pan would be preferred for highest sensitivity, Kodak Super-XX or Kodak Super Panchro-Press, Type B, for medium speed, and Kodak Panatomic-X where fine grain and extreme enlargement are necessary.

KODAK TRANSLITE FILM is a positive printing material, capable of yielding brilliant black-and-white transparencies for advertising and display use and

continued on next page

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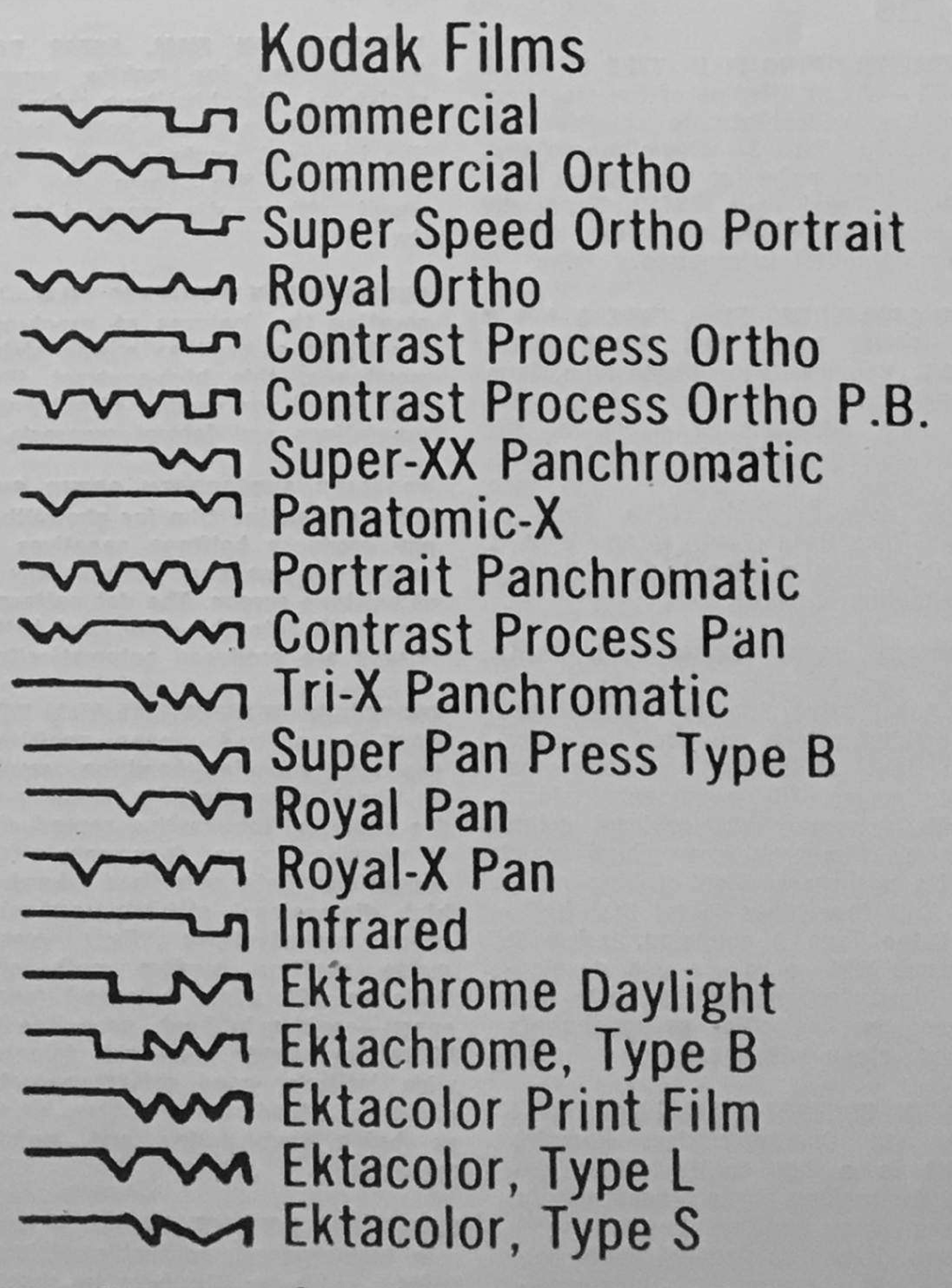
SHEET FILM NOTCHING CODE



for transilluminated murals. This film is coated on each side with a photographic paper emulsion and is exposed and processed in the same manner as photographic prints, except that density judgment is made by transmitted instead of reflected light. Translite transparencies may be toned with various Kodak toners and are usually hand colored for greatest beauty and most pleasing effect.

KODAK OPALURE PRINT FILM is a high-quality positive printing material on a white opalescent film support. It is especially suitable for producing portrait or display prints in either large or miniature sizes. It is most widely used in making hand-painted portrait miniatures. The emulsion is similar to that of Kodak Opal Paper and will produce pleasing, warm-toned prints of highest quality.

FINE GRAIN POSITIVE film has a low-speed, blue-sensitive emulsion which is suitable for copying both continuous-tone and line originals.

KODAK INFRARED SHEET FILM—A moderately high-contrast, infrared, antihalation film for distant haze penetration and for special effects in commercial, architectural, and landscape photography. With variations in development, it is useful in certain types of scientific, medical, documentary photography; photomechanical work; and photomicrography.

For special sensitized films see pages 96 & 97

graphic reproduction films

KODALITH ORTHO FILM, TYPE 3, ESTAR BASE — A combination of the most predictable, widest-latitude emulsion yet developed—Type 3—with a superb new, size-holding polyester base Kodak manufactures and calls ESTAR. Especially recommended where exceptional dimensional stability is required.

KODALITH ORTHO FILM, TYPE 3 * * * ON 4-MIL, 7-MIL, AND MATTE ESTAR BASE—Kodalith Ortho Matte Film, Type 3, Estar Base, has matte on both sides for easy additions of pencil or ink lines. Recommended for photolithography, drawing reproduction, and map work. Kodalith Ortho Film, Type 3, Estar Thick Base (7-mil), offers Type 3 emulsion on the ultimate in a flexible size-holding support.

KODALITH ROYAL ORTHO FILM/ESTAR BASE—Use and Characteristics. Kodalith Royal Ortho Film is recommended for making screen positives and negatives from continuous-tone, color-separation images. The prominent features of this extremely high-contrast orthochromatic film are its very high speed and its unsurpassed dot-etching qualities. It is four times faster than Kodalith Ortho Type 3 emulsion, but with the same wide exposure and development latitude. Production time for screened masked color separations is reduced, along with costs.

KODALITH CONTACT FILM/ESTAR BASE—Use and Characteristics. Kodalith Contact is a high-contrast film designed for making contact negatives or positives from halftone positives and negatives. It can be handled under yellow safelights because it is blue-sensitive . . . you operate your contact room in nearly normal roomlight . . . less eye fatigue and plenty of light for easy registering. No need for a blue-filtered light source when exposing. (For photolithographers: with this film there is no need to mask off with black paper; no danger of printing through goldenrod paper.)

KODALITH ORTHO FILM, TYPE 3—The new ultra-high contrast Type 3 Kodalith has exceptional exposure and development latitude. This latitude means that you can turn out better negatives with fewer makeovers. It is ideal for all general line and halftone negatives and is well suited for dot etching. Its special acetate base has excellent size-holding qualities.

KODALITH ORTHO THIN BASE FILM, TYPE 3—Having the same emulsion characteristics as the regular acetate Type 3, this .0035-inch thin base film is designed for making combinations and reversals for photolithography.

KODALITH SUPER ORTHO FILM—This film offers some special features to the camera man and platemaker. Possesses greatly increased exposure and development latitude plus blacker images on an extremely transparent base, fewer pinholes, and superior resistance to abrasion marks. Excellent for dot etching.

KODALITH TRANSPARENT STRIPPING FILM—This film is primarily designed for photoengraving and photolithography work where lateral reversal of the line or halftone image is desired. Having a tough, thin stripping skin, this film is ideal for combination and insert work.

KODALITH TRANSPARENT STRIPPING FILM, TYPE 3—The extra speed, wide exposure and development latitude, and high contrast of Kodalith Ortho Type 3 emulsion—now on transparent stripping film to eliminate needless makeovers and guarantee quality line and halftone images. Wet or dry stripping. Excellent results with both conventional etching and the new powderless etching.

KODALITH PAN FILM, ESTAR BASE—Recommended for making accurately registered, direct-halftone color-separation negatives from color originals. The improved emulsion now yields approximately five times the former speed, with greatly improved dot quality.

KODALITH PAN STRIPPING FILM—Incorporating the features of panchromatic sensitivity as well as a thin stripping membrane, this high-contrast film is well suited for making direct halftone separations and lateral reversals.

KODALITH AUTOSCREEN ORTHO FILM—This outstanding film for photolithography produces halftone negatives from continuous-tone copy without any type of halftone screen. The dot pattern has been built into this film, and halftone images are produced automatically.

KODAGRAPH AUTOPOSITIVE FILM ESTAR/BASE is a trade-proven positive to positive, roomlight-handling emulsion on Kodak's new flexible polyester base for superior, long-lasting reproductions of drawings, maps, documents offering exceptional strength and durability, high dimensional stability, and clean, sharp reproductions. Easy erasure, matte drafting surface both sides. Rolls to 52″ wide, balanced translucency—rapid print-back, good line visibility, excellent roomlight tolerance, wide latitude, good reflex properties, choice of standard developers, as well as being fast drying and moisture resistant.

KODAGRAPH CONTACT FILM is a brand-new, high-contrast, contact emulsion on Kodak's polyester film base for superior long-lasting reproductions of drawings, maps, and documents, offering exceptional strength and durability, high dimensional stability, sharp lines, clean white background, superb matte drafting surface both sides—rolls to 52″ wide. It has balanced translucency, rapid print-back, good line visibility with exceptional latitude and practical speed, wide choice of developers, fast drying and moisture-resistant.

KODAGRAPH PROJECTION FILM is a high-contrast, projection-speed emulsion on Kodak's new flexible polyester film base for superior, long-lasting enlargements or reductions from film negatives, offering exceptional strength and durability, high dimensional stability and sharp lines on a clean white background. Additional features are; easy erasure matte drafting surface, balanced translucency, rapid print-back, good line visibility, wide latitude and practical speed, choice of standard developers, fast drying, and moisture-resistant.

KODAK AUTOPOSITIVE FILM, ESTAR BASE—Where size-holding is critical, this film is ideal for making negatives from negatives, or positives from positives. It also has unique re-reversal features that facilitate complex insert work, as described in our booklet, "How to Use Kodak Autopositive Materials," Q-23.

KODAK COMMERCIAL FILM ON ESTAR BASE—Users of Kodak Commercial Film and Kodak Commercial PB Film will be happy to know that they may now obtain a newly improved version of this emulsion on stable 7-mil Estar Base. This blue-sensitive, variable-contrast film is ideal for making continuous-tone negatives from continuous-tone subjects, where red or green sensitivity is not required. Look for these improvements when you use this film: higher contrasts can be obtained . . . the emulsion surface can be retouched . . . minimum density change upon drying. All the image quality in these negatives will be retained when positives are made on Kodak 33 Positive Film (Estar Base).

KODAK COMMERCIAL ORTHO FILM—This film is designed for making continuous-tone negatives for gravure when red sensitivity is not required.

COMMERCIAL MATTE has a matte emulsion and a matte back to permit pencil retouching on either or both sides without retouching fluid.

KODAK SEPARATION NEGATIVE FILM (ESTAR BASE) is a new, improved, fine-grained film for use in making color separation negatives. It features improved acutance, fast drying, and a good retouching surface. In addition, color contrast indexes are closely matched to provide for relatively close development times. **TYPE I** is a moderately high-speed panchromatic emulsion for use where a long scale and low-to-medium contrast are required, as from color transparencies.

KODAK SEPARATION NEGATIVE FILM (ESTAR BASE) TYPE II, is a continuous-tone panchromatic film used for making negatives from reflection color copy by the camera back masking method.

KODAK PAN MASKING FILM, ESTAR BASE—Now obtainable on 7-mil Estar Base for precision registering and ease of handling. Designed primarily for camera-back masking of reflection color copy, it is unbacked to permit exposure through the base, and to provide for an unsharp mask.

KODAK PHOTOTYPESETTING FILM is a high-contrast, ortho-sensitive film introduced for use in phototypesetting machines which use a flash Xenon exposing light. Its 5-mil acetate base facilitates separation of images by scoring and bending.

KODAK 33 POSITIVE FILM (ESTAR BASE)—Used principally for making continuous-tone positives in photogravure and photoengraving color work. It has a shorter tone than Commercial Film, which assists in preserving good highlight gradation in making positives. This film can also be used for masks and positive masking and for the premasks in two-stage masking.

KODAK BLUE SENSITIVE MASKING FILM (ESTAR BASE)—This new product is photographically similar to Kodak 33 Positive Film, but is on a thinner base. In addition to 33 Positive applications, it is well suited for making the overlay masks used in photogravure for color correction, boosters, and dropout masks. It can also be used to make continuous-tone positives for 4-inch support applications.

black & white roll films

KODAK PLUS-X PAN FILM (135 Magazine)—A medium-speed panchromatic film having extremely fine grain and very high definition to provide improved picture sharpness, even at very great degrees of enlargement.

KODAK PLUS-X PAN PROFESSIONAL FILM—A medium-speed panchromatic film supplied in rolls (PX 620, PX 120). Its extremely fine grain and very high acutance provide improved picture sharpness, at very high degrees of enlargement. This is the roll-film counterpart of the 35mm Kodak Plux-X Pan Film so widely used by advanced 35mm photographers. For every professional whose standards demand professional quality, yet whose creative approach dictates the small camera, this is the film. **KODAK PLUS-X PORTRAIT FILM (70MM NOT PERFORATED)** is a similar product but with an improved retouching surface.

KODAK TRI-X PAN FILM—This high-speed film has been improved to give images of reduced graininess and greater sharpness, while maintaining wide exposure and development latitude, and color sensitivity suitable for all types of indoor and outdoor illumination. It is the ideal film for all kinds of photography where high speed and good enlargeability are required.

KODAK PANATOMIC-X FILM—An extremely fine-grain panchromatic film of moderate speed and contrast for use whenever a considerable degree of enlargement is required.

KODAK HIGH CONTRAST COPY FILM (135 MAGAZINE)—This film has a high-contrast, special panchromatic emulsion with extremely low graininess and high resolving power. It is especially designed for making greatly reduced copies of books, newspapers, manuscripts, line drawings, letters, etc. It should be used whenever the copy negatives represent more than a ten-fold linear reduction in size.

KODAK ROYAL-X PAN FILM—An extremely fast panchromatic film of coarse grain, recommended for night sports-action photographs by existing illumination; action photographs when light is very poor; interior scenes where the shortest possible exposures are needed; and any other situations where the highest emulsion speed is essential.

KODAK INFRARED FILM—A moderately high-contrast infrared film. With an orange or red filter, it gives striking and unusual effects. Most commonly used for distant landscape photography, to produce detail ordinarily obscured by atmospheric haze. Also useful in medical, scientific, and documentary photography and photomicrography.

KODAK HIGH SPEED INFRARED FILM (35 MM PERFORATED)—This film is sensitive through the visible regions of the spectrum and in the infrared to approximately 9000A, with maximum sensitivity in the region from 7700A to 8400A. This film is useful in medical, scientific, documentary, legal, and industrial photography, and in photomicrography. HIR 417 is 35 mm x 100 ft., subdued light load, perforated, on No. 10-35mm spool. For Opthalmograph, Eyemo, De Vry, and similar cameras; Graflex Photorecord Microfilm Outfit, and 35 mm Graflex Photorecord Indentification Unit or Camera.

KODAK DIRECT POSITIVE PANCHROMATIC FILM (35MM PERFORATED)—A fast, fine-grain, antihalation, panchromatic reversal film for making slides of high quality. Its reversal processing is quicker and simpler than the negative-positive process. It is well suited to making 2 x 2-inch slides from prints, other halftones, 3¼ x 4-inch slides, and from ordinary outdoor and indoor subjects. This film is 35mm x 100 ft., darkroom load, perforated, on 1-inch diameter Tenite core, square hole with keyway (Type AA). Frame numbered.

KODAK FINE GRAIN POSITIVE FILM (35MM PERFORATED)—Has a low-speed, blue-sensitive emulsion useful for printing positive transparencies from continuous-tone or line negatives, for use in miniature slide projectors. This film is not recommended for general camera work but can be used for copying.

KODAK ROYAL-X PAN RECORDING FILM (70MM PERFORATED)—An extremely fast panchromatic film of medium contrast and coarse grain. It is intended for instrumentation work where extremely short exposures demand maximum sensitivity. Handle in total darkness. The film is 70mm wide x 100 ft., perporated Type II, on No. 10-70mm spool.

KODAK ROYAL PAN FILM (70MM NOT PERFORATED)—A very fast panchromatic film with a portrait base and antihalation backing. Royal Pan comes in 70mm x 60 ft. rolls, darkroom load, on 1¼-inch diameter Tenite core with square hole (Type J). For Beattie Portronic, MacVan R-70, and similar cameras.

TRI-X PANCHROMATIC FILM (3½ INCH NOT PERFORATED)—Fast, high red-sensitive panchromatic film. Portrait base with anti-halation backing. Tri-X Panchromatic Sp. 825 has the same specifications as Royal Pan Film (3½ inch Not Perforated) described above.

KODAK INFRARED FILM (IR135)—A moderately high-contrast, infrared film. With an orange or red filter, it gives striking and unusual effects. Most commonly used for distant landscape photography, to produce detail ordinarily obscured by atmospheric haze. Also useful in medical, scientific, and documentary photography and photomicrography.

plates

KODAK TRI-X PANCHROMATIC PLATE, TYPE B KODAK TRI-X PANCHROMATIC PLATE, TYPE B, MATTE—These are extremely fast, Type B panchromatic plates. Their long scale and high speed make them adaptable to commercial illustrative photography and portraiture. Tri-X Plates are used for color-separation negatives in some one-shot cameras. **KODAK TRI-X PANCHROMATIC PLATE, TYPE B, MATTE,** has a matte emulsion which permits pencil retouching without retouching fluid.

KODAK SUPER PANCHRO-PRESS PLATE—A very fast, Type C panchromatic plate, quite satisfactory for color-separation negatives made directly from the subject in one-shot cameras which require plates having high red sensitivity. It is also suitable for press work and for general use under adverse lighting conditions whenever high emulsion speed and brilliant negatives are required.

KODAK SUPER ORTHO-PRESS PLATE—A high-speed, orthochromatic plate, intended primarily for press work. It is also suitable for commercial and illustrative uses requiring high speed and brilliant negatives. Its orthochromatic sensitivity aids in securing good rendering of flesh tones in photoflash pictures.

KODAK PROCESS PLATE—A slow, blue-sensitive plate of fine grain and high contrast, suitable for reproducing line drawings, tracings, plans, and written or printed matter, and for other types of work requiring high-contrast negatives or positive transparencies of black-and-white subjects. Kodak Process Plates can be substituted for Lantern Slide Plates, Medium, where larger unlisted sizes are needed.

KODAK M PLATE—A plate of Type B panchromatic sensitivity and high resolving power which can be used to produce a wide range of contrasts by suitable development. It is, therefore, particularly adapted for general use in photomicrography, spectroscopy, and other scientific work.

KODAK METALLOGRAPHIC PLATE—An orthochromatic plate of high green sensitivity and high resolving power, particularly useful for obtaining negatives of high contrast. It can also be made to produce a wide range of contrasts by suitable development. It is, therefore, particularly adapted to use in photomicrography. This plate has unusually high sensitivity in that region of the spectrum transmitted by the green filters used in metallography and which gives the best definition with achromatic objectives.

KODAK LANTERN SLIDE PLATES—These are extremely fine-grain, blue-sensitive plates for making transparencies for projection. The Medium and Contrast Plates provide a range of contrasts to suit all negatives that produce good prints on any of the various contrast grades of paper. The Medium Plate is for negatives of normal to high contrast. The Contrast Plates are for line subjects as well as continuous-tone negatives of low contrast. The Anti-Abrasion Contrast Plate has a protective layer over the emulsion to reduce the possibility of abrasion markings. When larger unlisted sizes of Lantern Slide Medium Plates are required, Kodak Process Plates can be substituted.

KODAK INFRARED-SENSITIVE PLATES are available in practically all sizes up to and including 30 x 40 inches. They are primarily intended for the making of "black-printer" negatives in photomechanical reproduction.

KODAK MAGENTA MASK PLATE—A new, improved, non-matte plate that is specially designed for use in the Kodak Magenta Masking Method. As the name implies, it is intended only for use in making magenta masks using Kodak Magenta Developer where the former Kodak Separation Negative Plate, Type 1, was previously recommended.

graphic reproduction plates

KODALITH ORTHO PLATES, TYPE 3—Extra speed, wide exposure and development latitude, dense blacks, clear whites, and excellent dot etching qualities are exclusive to Kodalith Type 3 emulsion, now available on plates. This high-contrast emulsion eliminates needless makeovers and assures quality line and halftone images.

KODALITH ROYAL ORTHO PLATES—have characteristics similar to **KODALITH ROYAL ORTHO FILM.**

KODALITH PAN PLATES—Designed for making line or direct halftone color separation negatives and positives, the high contrast emulsion of these plates gives sharp lines and halftone dots.

KODAK SEPARATION NEGATIVE PLATE TYPE I is a new plate possessing the same characteristics as its film counterpart. It will replace Separation Negative Plate, Separation Negative Matte Plate, Type I, and Panchromatic Matte Plate. **KODAK SEPARATION NEGATIVE PLATE TYPE II** has same characteristics as its respective film counterpart and replaces same as Type I.

KODAK TRI-X PAN, TYPE B (AND MATTE) PLATES—An extremely fast, low contrast plate for color separation work.

KODAK 33 POSITIVE PLATE—A new, faster drying plate with special retouching surface, this will take the place of Kodak 33 Plate and 33 Matte Plate as our remaining stocks become exhausted.

KODAK AUTOPOSITIVE PLATE—This high contrast, contact plate yields negatives from negatives or positives from positives, a feature which allows the making of lateral reversals or duplicate plates from line or halftone originals. Exposure requires Kodagraph Yellow Sheeting.

kodak contact papers

KODAK ATHENA PAPER is a contact printing paper of portrait quality, producing prints of warmth, brilliance, and fine gradation. It is supplied only in double weight but in four printing grades. Athena tones beautifully to a brown or sepia color in either Kodak Gold Toner T-21, Kodak Rapid Selenium Toner, or Kodak Polytoner.

KODAK VELOX PAPER is a fast contact printing paper particularly suited to photofinishing because of its wide latitude and cold blue-black tone. This tone is universal throughout all four printing grades.

KODAK AZO PAPER is a widely used contact printing paper for commercial and photofinishing work. Its six printing grades suit negatives of widely differing contrast ranges. Prints made on Azo have a cold tone. For brown tones, Azo can be toned in Kodak Brown Toner or Kodak Polytoner.

KODAK ILLUSTRATORS' AZO PAPER is a contact printing paper of moderate warmth, designed primarily for the requirements of the illustrator and the commercial photographer. It tones well in Kodak Gold Toner T-21, Kodak Rapid Selenium and Kodak Polytoner.

KODAK ARISTO PAPER is a contact printing paper of moderate warmth intended expressly for contact printing of portraits. It is available in three printing grades, double weight, and tones attractively using the same toners as Kodak Illustrator's Azo paper.

KODAK AD-TYPE PAPER has the same speed as Azo, but the emulsion is coated on smooth, lightweight white stock which can be folded without cracking. Ad. Type is popular for folder greeting cards. It is supplied only in the "A" surface, in up to six printing grades.

KODAK RESISTO PAPER is intended for jobs that require fast print service or moderately close size maintenance. It can be processed in about seven minutes. These features are due to a water-resistant paper base. Furnished in one surface and four printing grades.

KODAK STUDIO PROOF PAPER is a smooth, single-weight gelatin printing-out paper for printing by sunlight or artificial light. The depth of printing is judged by visual examination, and the reddish image is not permanent.

kodak enlarging papers

KODAK EKTALURE PAPER has approximately twice the speed of Kodak Opal Paper. It produces a warm image by direct development in Kodak Selectol or Ektonol Developer, and tones well in Kodak Rapid-Selenium, Kodak Polytoner, and Kodak T-21 Toners. The surface of Ektalure Paper G is especially adapted to coloring with oils. Shadow areas tend to remain open and clean.

KODAK OPAL PAPER has warmth of tone and a long gradation scale which make it favored by portrait photographers. While not in the high-speed class, Opal has sufficient speed for enlarging with the usual projection printers and, with reduced illumination, can be used for contact printing. It is supplied in one printing grade—for normal negatives. For very warm tones, Opal can be toned in Kodak Gold Toner T-21, Kodak Rapid Selenium Toner, or Kodak Polytoner. The "G" surface is especially adapted to coloring with oils.

KODAK MEDALIST PAPER is a fine-quality, all-purpose enlarging paper. Its high speed is essentially the same throughout all four printing grades. It has a new kind of exposure and development latitude that makes it possible to obtain "in-between" contrasts —to wring the best from every negative. Kodak Medalist Paper handles beautifully in standard toners like Kodak Brown, Kodak Sepia, and Kodak Blue Toners, as well as in hypo-alum.

KODAK POLYCONTRAST AND POLYCONTRAST RAPID PAPERS are two new variable-contrast-type projection papers of pleasing image warmth. They are offered in a choice of two speeds—Kodak Polycontrast and Kodak Polycontrast Rapid. Polycontrast Paper can also be used for contact printing. When printing from normal negatives, exposure can be made without the use of filters. Negatives that require either No. 1 or No. 3 paper can be accommodated by use of one of two filters. But essentially any printable negative can be made to yield a good print through employing one of a set of

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Kodak photographic papers are available as follows:

CONTACT PAPERS

KODAK AD-TYPE PAPER *(folding stock)*

A White, Smooth, Lustre..................LW 0-5

KODAK ATHENA PAPER

B Cream White, Smooth, Lustre............DW 1
G Cream White, Fine Grained, Lustre.......DW 1,2,3
Y Cream White, Silk, Lustre...............DW 0-3

KODAK ARISTO PAPER

G Cream White, Fine Grained, Lustre.......DW 1,2,3
P Old Ivory, Fine Grained, Lustre..........DW 2
Y Cream White, Silk, Lustre...............DW 1,2,3

KODAK AZO PAPER

D Snow White, Fine Grained, High Lustre...DW 1-4
E White, Fine Grained, Lustre.............SW 0-4, DW 1-4
F White, Smooth, Glossy..................SW 0-5, DW 0-4
N White, Smooth, Lustre..................DW 1-5

KODAK ILLUSTRATORS' AZO PAPER

E White, Fine Grained, Lustre.............SW 1,2,3, DW 1,2,3
F White, Smooth, Glossy..................SW 0-4, DW 1,2,3

KODAK RESISTO PAPER

N White, Smooth, Lustre..................SW 0,2,3,5

KODAK VELOX PAPER

F White, Smooth, Glossy..................SW 1-4

ENLARGING PAPERS

KODAK EKTALURE PAPER

F White, Smooth, Glossy..................SW & DW
G Cream White, Fine Grained, Lustre.......DW
K Cream White, Fine Grained, High Lustre..DW
R Cream White, Tweed, Lustre............DW
X Cream White, Tapestry, Lustre..........DW
Y Cream White, Silk, Lustre...............DW

KODAK ILLUSTRATORS' SPECIAL PAPER

E White, Fine Grained, Lustre.............SW & DW

KODABROMIDE PAPER

A White, Smooth, Lustre..................LW 1-5
E White, Fine Grained, Lustre.............SW 1-5, DW 1-5
F White, Smooth, Glossy..................SW 1-5, DW 1-5
G Cream White, Fine Grained, Lustre.......DW 1-5
N White, Smooth, Lustre..................SW 1-4, DW 1-4

KODAK MEDALIST PAPER

E White, Fine Grained, Lustre.............DW 2,3
F White, Smooth, Glossy..................SW 1-4, DW 2,3
G Cream White, Fine Grained, Lustre.......DW 1-4
J White, Smooth, High Lustre.............SW 2,3, DW 1-4
Y Cream White, Silk, Lustre...............DW 1,2,3

KODAK MURAL PAPER

R Cream White, Tweed, Lustre............SW 2,3

KODAK OPAL PAPER

B Cream White, Smooth, Lustre...........DW
C Cream White, Smooth, Matte............DW
G Cream White, Fine Grained, Lustre.......DW
L Cream White, Rough, Lustre.............DW
P Old Ivory, Fine Grained, Lustre..........DW
R Cream White, Tweed, Lustre............DW
V Cream White, Suede, Matte.............DW
Y Cream White, Silk, Lustre...............DW
Z Old Ivory, Tapestry, Lustre..............DW

KODAK PANALURE PAPER

E White, Fine Grained, Lustre.............DW
F White, Smooth, Glossy..................SW

KODAK POLYCONTRAST PAPER

F White, Smooth, Glossy..................SW & DW
G Cream White, Fine Grained, Lustre.......DW
N White, Smooth, Lustre..................SW & DW

KODAK POLYCONTRAST RAPID PAPER

F White, Smooth, Glossy..................SW & DW
G Cream White, Fine Grained, Lustre.......DW
N White, Smooth, Lustre.................SW
Y Cream White, Silk, Lustre...............DW

KODAK POLYLURE PAPER

F White, Smooth, Glossy..................SW & DW
G Cream White, Fine Grained, Lustre.......DW
R Cream White, Tweed, Lustre............DW
Y Cream White, Silk, Lustre...............DW

KODAK PORTRAIT PROOF PAPER

R Cream White, Tweed, Lustre............SW

KODAK RESISTO RAPID PAPER

N White, Smooth, Lustre..................SW 1-4

KODAK VELOX RAPID PAPER

F White, Smooth, Glossy..................SW 0-3

ALL KODAK PHOTOGRAPHIC PAPERS ARE IDENTIFIED BY LETTERS, AS SHOWN ABOVE.

CONTRAST GRADES OF KODAK PAPERS *For Negatives Whose Contrast Is*
Very High 0 High 1 Normal 2 Low 3 Very Low 4 Extremely Low 5

PAPER STOCK
Double Weight (DW) Single Weight (SW) Light Weight (folding) (LW)

Kodak Medalist Paper. The speed of Polycontrast Rapid is similar to that of Kodabromide Paper. Polycontrast Papers can be exposed to white light to yield top-quality prints from the majority of your negatives—**normal** negatives. Yet, those negatives requiring contrast grades other than No. 2 can also be accommodated. Thus, one box of paper in your darkroom can now be made to do the work of several. Your ordering, stocking, and inventory practices are simplified. But the level of print quality remains constant. Excellent toning effects with Kodak Brown, Kodak Sepia, Kodak Blue, and Hypo-Alum Toners.

KODAK POLYLURE PAPER—the newest member of the family of "Poly" papers. PolyLure is a variable-contrast paper, suitable for use in either contact printing or enlarging, which produces high-quality prints with a brown-black image tone. PolyLure Paper is offered in a variety of surfaces whose printing contrasts can be controlled over a wide range through suitable filters (the Kodak Polycontrast Filter Kit, Model A). For ordinary tungsten-source enlargers, PolyLure Paper will produce normal-contrast prints from normal-contrast negatives when no filter is used. PolyLure has a brown-black image tone, similar to that of Kodak Ektalure Paper, and approximately the same speed as Ektalure. Excellent effects can be made with these toners: Kodak Rapid Selenium, Kodak Polytoner, Kodak Blue Toner.

KODAK ILLUSTRATORS' SPECIAL PAPER has a full-scale, brilliant emulsion of Ektalure quality and speed, coated on a pure white stock. It is especially popular with commercial illustrators for reproduction purposes. It is supplied in one printing grade and only in the "E" surface, ideal for retouching and other art work. Toning recommendations are the same as Ektalure.

KODABROMIDE PAPER is a fast enlarging paper of exceptional quality. It possesses remarkable exposure and development latitude which materially reduces the percentage of discards. Its rich black tone is uniform through all five printing grades and remains so over a wide range of processing conditions. Kodabromide is widely used for studio, commercial, press photofinishing, and exhibition prints. Single-weight "F" is excellent for news pictures and withstands the rough treatment of rush handling. Kodabromide can be toned brown in Kodak Sepia Toner or in toner formula T-7a

KODAK VELOX RAPID PAPER is designed for Velox Rapid Printer or similar optical printers. It is faster than Velox and enables the photofinisher to produce oversize prints of the same tone quality as Velox contact prints.

KODAK RESISTO RAPID PAPER, like Resisto, is intended for jobs that require fast print service or moderately close size maintenance. It can be processed completely in about seven minutes. Its speed of processing and moderately high dimensional stability are due to a low-shrink, water-resistant paper base. Resisto Rapid is available in four printing grades.

KODAK PORTRAIT PROOF PAPER is a medium-rough, single-weight developing-out paper having about the same speed as Ektalure. It is for making proofs by contact with reduced illumination, or by projection. Its surface texture, which gives pleasing proofs with a minimum of retouching, has made this paper popular for finished work.

KODAK MURAL PAPER R is specially designed for the production of photomurals and other large prints. It tones well in Kodak Brown Toner and is available in two printing grades. It is regularly supplied in rolls 42 inches wide, untrimmed, and in some sheet sizes.

KODAK VELOX UNICONTRAST PAPER, RAPID, is primarily for use by the photofinisher with continuous printing and processing equipment. It is supplied in 1000-foot rolls, 2½, 2¾, 3, 3¼, 3½, 3¾, 4, and 5 inches wide, straight or deckle edge. It is also available in 500- and 5000-sheet packages, straight or deckle edge, and die-cut in the proper shape for the Kodak Album Print Folder. Sizes are 3 x 3½, 3¼ x 4½, 3½ x 3½, 3½ x 5, 3½ x 5¾.

KODAK TRANSLITE SHEET FILM—This film is coated on both sides with an emulsion similar to that used for warm-tone projection papers. It is flat-lying, translucent, and capable of producing extremely brilliant results. It is especially useful for making advertising and display transparencies which will last longer and be more satisfactory than the usual paper prints. It yields beautiful transparencies when colored with oil colors.

WHAT SURFACE TO CHOOSE?

The following is a brief description of each Kodak paper surface type with some of its most common applications.

Surface A is a smooth, lustrous surface on a white, lightweight folding stock. It is used frequently for French-fold greeting cards, prints to be attached to reports and theses, salesmen's sample picture books, and paper negatives.

Surface B is smooth, cream white, lustre, particularly appropriate for portraits of small heads where it is desirable to preserve fine detail.

Surface C is the matte counterpart of B. It too is used for small portrait heads, but it is also recommended for high-key pictures where the matte surface adds a feeling of delicacy.

Surface D is snow-white and intended primarily for Christmas cards.

Surface E is a fine-grain lustre on white stock. It is usually preferred where a commercial paper of a non-glossy type is indicated. It preserves a great amount of detail, the white stock tint makes it acceptable to the engraver, and the lustre finish makes it acceptable as an all-round paper.

Surface F is Kodak's glossy surface—the general favorite for pictures to be reproduced photomechanically, such as commercial photos, news photos, etc. It is also widely used for exhibition prints, because of its ability to reproduce a maximum of detail with brilliance. The F surface is by far the most popular paper in both the commercial and photo-finishing fields.

Surface G is the outstanding favorite for portraiture. It is adaptable to the majority of subjects and is often considered a happy compromise in cases where a more appropriate surface is not at hand. This surface is the popular favorite for oil coloring.

Surface J is the new Medalist surface—a smooth, high-lustre white. Designed specifically for the illustrator, its high-lustre surface preserves detail and produces brilliance which facilitates the making of highest-quality photomechanical reproductions.

Surface K is the high-lustre counterpart of G and is designed for the same purposes as G, although it imparts a feeling of greater brilliance and life to the picture. It is not recommended for oil coloring.

Surface L, being rough, is intended for reasonably large heads or other subjects where fine detail is not important. The rough texture adds a certain ruggedness to the print and makes large-size photographs appear somewhat richer than if printed on a smooth-textured surface.

Surface N is a commercial surface which has been especially designed for retouching on the print. It accepts strong penciling. Being quite smooth, it also preserves fine detail.

Surface P is the old Ivory counterpart of G and is used for the same purposes except that it is recommended for subjects with warmth, such as fireside scenes, sunsets, etc. The old ivory tint is also felt by many photographers to add stature to portraits of men, particularly older men.

Surface R is the very popular tweed surface. It is effective in minimizing the need for fine retouching and is especially good for breaking up large areas with its tweedlike texture. This surface has proven very popular for portrait proofing and for photomural work.

Surface V is the popular suede, which simulates the appearance of suede leather. The extreme matte tends to tone down some detail, and the deep suede effect adds considerable depth to subjects. The suede surface is practically reflection-free and looks very well with almost any type of lighting. It has been of considerable interest to television advertisers in their attempts to eliminate surface glare. It has also been adopted by several outstanding photographers for highest-quality wedding photographs.

Surface X like Surface Z is extremely coarse-textured and canvaslike. However, its cream white stock makes it ideal for oil coloring, lets teeth, bridal gowns, and similar highlight areas come through naturally.

Surface Y simulates silk and is extremely popular for wedding photography because of its brilliance and clothlike texture. Its brilliance also makes it a very attractive medium for expressing brightness in such pictures as snow scenes, seascapes, greeting cards, etc.

Surface Z is extremely coarse-textured and canvaslike, with old ivory tint. It is a heavy surface designed for the printing of heavy subjects. Its major use is for subduing large masses and it is very effective for extremely large heads of men. Opal Z is frequently oil-colored with opaque oils, which gives much the effect of an oil painting on canvas.

graphic reproduction papers

KODALITH ORTHO PAPER (STANDARD) • KODALITH ORTHO PAPER (THIN)—Supplied on two paper stocks, this maximum contrast paper is designed for making either camera or contact negatives and positives of line or halftone material. (See data on other Kodak papers suca as Kodak Ad-Type A and Kodak Resisto N for other Graphic Arts uses.)

KODAK PHOTOTYPESETTING PAPER, like the film, can be used under a Series I Safelight Filter, and the developer below is recommended. It produces clear, black images on a bright, white paper, making excellent copy for reproduction.

KODAK RESISTO RAPID PAN PAPER (H-12) A panchromatic emulsion on water-resistant stock specifically intended for separation positive prints for photomechanical reproduction in color from Kodak Ektacolor and Kodacolor Films.

WHAT IS KODAGRAPH?—Kodagraph is the trade name for a series of photographic papers and films made by Eastman Kodak Company specifically for improving drawing and document reproduction with today's high-speed direct-process and blueprinting equipment. Their high-contrast, silver emulsions are specially designed to provide copies and intermediates that equal or excel the legibility and quality of the originals. Printing, drawing, detailed line-work, etc. is reproduced in crisp, dense black with clean backgrounds. Kodagraph reproductions also have a high degree of permanence. They will not fade, smudge, blur, or offset and their high-quality paper and film bases are extremely resistant to yellowing or brittleness with age. Rigid manufacturing standards and controls assure the same fine features and quality results every time.

KODAGRAPH AUTOPOSITIVE PAPER, EXTRA THIN—A high-contrast paper with unique characteristics—it prints directly to a positive, eliminating the negative step, and can be handled in ordinary roomlight. An ideal, low-cost material for making intermediates from which quantity prints can be run. Also finds numerous other applications in both drawing reproduction and office photocopying. Steps up contrast, reproducing original detail as rich, dense black lines. Should revisions be required, lines can be readily removed with eradicator solution. Evenly translucent, tough, durable, Autopositive Extra Thin intermediates can be fed through a machine hundreds of times at practical uniform speeds to produce final prints of outstanding legibility. Exposure is by contact-printing techniques on any equipment with a high-intensity light source, such as a direct-process or blueprint machine, or a vacuum frame. Kodagraph Sheeting, yellow or orange, is required as a filter between the paper and high-intensity light source to assure proper light value. Processing is with standard photographic solutions.

KODAGRAPH AUTOPOSITIVE PAPER, TRANSLUCENT—Provides all the advantages of the Autopositive emulsion on a special highly translucent paper base that is extra tough and durable. Can stand rougher handling, is easier to work with in larger sheets, will take severe punishment on the drafting board. High translucency allows print-back speeds about 30% higher than with Autopositive Paper, Extra Thin. Line detail is clearly visible through the back, permitting easy revision of reverse-reading prints. Lines can be erased, after moistening, with an ordinary eraser, without harm to the paper. Handling and processing same as for Autopositive Paper, Extra Thin.

KODAGRAPH YELLOW SHEETING—This uniform filter material is necessary for the exposure of Kodagraph and Kodak Autopositive Films, Plates, and Papers.

KODAGRAPH REPRO-NEGATIVE PAPER—A medium-high contrast material with conventional negative-to-positive printing characteristics. Can be handled in ordinary roomlight and exposed in blueprint or direct-process machines, or in a vacuum frame. Used for making positive copies from negative originals or negative copies from positive originals. Ideally suited for making reproducible copies from blueprints. Also good for making negatives of drawings for reproduction on sensitized cloth. Same handling and processing as for Autopositive materials but is often exposed

continued on next page

without using Kodagraph Sheeting yellow. This filter recommended, however, in copying blueprints and to compensate for an exposure that would otherwise be too short for practical handling.

KODAGRAPH CONTACT PAPER, STANDARD—A high-contrast, darkroom handling material with negative-to-positive printing characteristics. Excellent for general office use in the reproduction of letters, drawings, charts, stock cards, etc. May be used with many kinds of contact photocopying equipment—small box printers, curved-platen devices, large vacuum-type photocopying machines. Unexcelled for making negatives by reflex as well as print-through method. Produces clean, open lines and dense black backgrounds that require minimum of opaquing. Positives made from negatives have comparable crispness and legibility. Carefully selected speed assures fast printing and convenient handling. Wide latitude eliminates need for split-second timing in printing and processing. Smooth surface takes pen and pencil notations. May be folded without cracking.

KODAGRAPH CONTACT PAPER, EXTRA THIN—Same emulsion as Kodagraph Contact Paper, Standard but on thinner base. Copies require less file space. Ideal for intermediates for quantity print production.

KODAGRAPH CONTACT FINE LINE PAPER—Same emulsion as other Kodagraph Contact Papers, but has thin base with smooth, glossy surface. Especially valuable for reproducing originals with very fine detail, drawings or documents in poor condition, and printed halftone originals.

KODAGRAPH CONTACT PAPER, TRANSLUCENT—Same emulsion as other Kodagraph Contact Papers but coated on same durable, highly translucent base as found in Kodagraph Autopositive Paper, Translucent. Hence, permits faster speeds in quantity print production and stands up under rough handling. Widely used for making reproduced tracings from paper and film negatives as well as negative intermediates for making blue-line prints in a blueprint machine. Has line-erasability feature for ease in revision.

KODAGRAPH PROJECTION PAPER, STANDARD—A high-contrast paper with negative-to-positive printing characteristics for projection printing of enlargements or reductions from film negatives. Its moderate speed provides convenience in printing and processing. Especially suitable for projection prints from micro-film negatives. Used with enlargers, projection printers. Paper base is tough, durable, easy to write on in pen or pencil.

KODAGRAPH PROJECTION PAPER, EXTRA THIN—Same emulsion as Kodagraph Projection Paper, Standard but on thinner base that provides extra translucency desired in intermediates and reduces amount of file space required.

KODAGRAPH FAST PROJECTION PAPER, STANDARD AND EXTRA THIN—Similar to Kodagraph Projection Paper but has extreme-speed emulsion. Reduces exposure times but requires low work-room illumination. Like Kodagraph Projection Paper, it is available in Standard and Extra Thin Stocks. Fast Projection Extra Thin can be exposed in a camera to make reduced-size negatives of drawings for running blue line prints.

KODAGRAPH PROJECTION PAPER, TRANSLUCENT—A high-contrast paper on a translucent base similar to that of Kodagraph Contact and Autopositive Translucent Papers. Intended for enlargements of microfilm negatives and reproduction of regular line negatives of drawings where a translucent, vellum-type tracing is desired. Emulsion has approximately same speed as that of Kodagraph Projection Papers, Standard and Extra Thin. Produces crisp, black lines for intermediates of highest quality. Extra-translucent base permits faster print-back speeds.

KODAGRAPH AUTOPOSITIVE PROJECTION PAPER, STANDARD—High-contrast paper for direct-to-positive printing. New type wash-off emulsion needs no fixing. Extreme speed, similar to Kodagraph Fast Projection Paper. Exposed in camera or enlarger and developed in special Kodagraph Autopositive Projection Developer. Used for positive copies of documents, paste-ups, other originals. Suitable for making flip charts from positive black-and-white transparencies. Ideal for enlarged positives from microfilm positives. For those who desire enlarged negatives from microfilm negatives for corrections before making a full-size positive copy, it makes an excellent negative suitable for opaquing. This can be printed back to papers such as Kodagraph Contact Paper, Translucent.

KODAGRAPH AUTOPOSITIVE PROJECTION PAPER, EXTRA THIN—Same as Autopositive Projection Paper, Standard but on thinner base. Ideal for making reduced-size positive intermediates of engineering drawings with either process-type or flow-type camera.

KODAK PRODUCTS FOR COLOR PHOTOGRAPHY

In a comparatively short period of time, color photography has evolved from a highly technical nigh-impossibility to a relatively simple matter mechanically. New films and processes have enabled the photographer to use his color medium for the interpretation of ideas rather than to demonstrate a scientific tour de force. Color photography is now the tool of the photographer rather than his master. And the many fine color products Kodak makes for the professional photographer are described herein.

films for color photography

KODAK EKTACOLOR FILM, TYPE S (SHORT EXPOSURE)—A sheet film designed for making color negatives at exposure times of 1/10 second or shorter. The recommended light sources are flash lamps, daylight, and electronic flash tubes. Colored couplers in the film provide automatic color correction and make possible excellent quality in color reproductions without supplementary masking. The negatives can be printed on Kodak Ektacolor Paper or by the Kodak Dye Transfer Process. They can also be used to make positive transparencies on Kodak Ektacolor Print Film.

KODAK EKTACOLOR FILM, TYPE L (LONG EXPOSURE)—A sheet film designed for making color negatives at exposure times from approximately 1/5 second to 60 seconds. It is primarily balanced for illumination from 3200 K lamps and has the same desirable resolution and grain characteristics as Kodak Ektacolor Film, Type S. The resulting negatives can be printed on Kodak Ektacolor Paper or by the Kodak Dye Transfer Process. It can also be used to make positive transparencies on Kodak Ektacolor Print Film.

KODAK EKTACOLOR PRINT FILM—A color film for direct printing or enlarging from negatives on Kodak Ektacolor Film, Type B or Type S. Designed for processing by the user, it yields brilliant positive transparencies which are well suited for use in displays or as color guides for the photomechanical reproduction of Ektacolor negatives.

KODAK EKTACOLOR ROLL FILM (35MM, 46MM, AND 70MM)—a film designed for making color negatives at exposure times of 1/10 second or shorter. It can be exposed by clear flash without a filter, or with appropriate filters, by daylight or electronic flash illumination. Colored couplers in the film provide automatic color correction and make excellent quality in color reproductions possible without supplementary masking. The negatives can be printed on Kodak Ektacolor Paper or by the Kodak Dye Transfer Process. They can also be used to make positive transparencies on Kodak Ektacolor Print Film or black-and-white prints on Kodak Panalure Paper. This film must be handled and processed in total darkness.

KODAK EKTACHROME FILM, DAYLIGHT TYPE—A color sheet film balanced for exposure in sunlight and designed for reversal processing by the user to produce positive color transparencies. The transparencies can be viewed by transmitted light or projection, and can be printed in color by photomechanical methods, the Kodak Dye Transfer Process, or on Kodak Ektachrome Paper.

KODAK EKTACHROME FILM, TYPE B—A color sheet film balanced for exposure with 3200 K lamps and designed for reversal processing by the user to produce positive color transparencies. The transparencies can be viewed by transmitted light or projection, and can be printed in color by photomechanical methods, the Kodak Dye Transfer Process, or on Kodak Ektachrome Paper.

KODAK EKTACHROME FILM, DAYLIGHT TYPE (PROCESS E-2)—A color film designed for use in miniature and roll-film cameras and balanced for exposure in sunlight. Processed by reversal, it yields positive transparencies for projection or color printing. The transparencies can be used to obtain Kodachrome prints and enlargements and can also be printed on Kodak Ektachrome Paper, by the Kodak Dye Transfer Process, or by photomechanical methods. Kodacolor prints and 5 x 7-inch enlargements are supplied from miniature and stereo Ektachrome transparencies.

KODAK EKTACHROME FILM, TYPE F (PROCESS E-2)—A color film designed for use in miniature and roll-film cameras and balanced for exposure with clear flash lamps such as the No. 5 and 25. Processed by reversal, it yields positive transparencies for projection or color printing. The transparencies can be used to obtain Kodachrome prints and enlargements and can also be printed on Kodak Ektachrome Paper, by the Kodak Dye Transfer Process, or by photomechanical methods. Kodacolor prints and 5 x 7-inch enlargements are supplied from miniature and stereo Ektachrome transparencies.

KODAK HIGH SPEED EKTACHROME FILM, DAYLIGHT TYPE—A new, extremely fast color roll film designed for use in miniature cameras and balanced for exposure in sunlight. Processed by reversal, it yields positive transparencies for projection. With its Exposure Index of 160, High Speed Ektachrome is ideal for making action shots in shade or dull light while delivering excellent definition and color reproduction.

KODAK HIGH SPEED EKTACHROME FILM, TYPE B—Designed for use in 35mm cameras, this new, extremely fast color roll film is balanced for exposure in artificial light and yields positive transparencies for projection. Especially useful in getting tough available-light shots with existing artificial light, this film provides excellent definition and color rendition.

KODACHROME FILM, DAYLIGHT TYPE—A color film designed for use in miniature still cameras or motion-picture cameras and balanced for exposure in sunlight. Processed by reversal, it yields positive transparencies for projection or color printing. The transparencies can be used to obtain Kodachrome or Kodacolor prints and enlargements and can also be printed on Kodak Ektachrome Paper, by the Kodak Dye Transfer Process, or by photomechanical methods.

KODACHROME FILM, TYPE F—A color film designed for use in miniature still cameras and balanced for exposure with clear flash lamps, such as the No. 5 and 25. Processed by reversal, it yields positive transparencies for projection or color printing.

KODACHROME II FILM is an improved Kodachrome Film. In addition to being faster than regular Kodachrome Film, Kodachrome II Film also incorporates significant quality improvements. Compared with regular Kodachrome Film, Kodachrome II Film is 2½X faster, thus permitting picturetaking under poorer lighting conditions. The increased film speed also allows the use of smaller lens openings for increased depth of field, or faster shutter speeds to reduce unsharpness caused by camera or subject motion. Kodachrome II Film also has more exposure latitude, thereby helping to minimize exposure errors. Despite its increased speed, Kodachrome II Film is capable of making sharper pictures with less graininess than regular Kodachrome Film. These improvements will be most evident in 8mm movies where projection magnification is the greatest. Color rendition is also improved, bright colors being more vivid and pastel colors cleaner. Furthermore, a reduction in contrast enables the reproduction of a greater subject brightness range. Kodachrome II Film for Daylight has an exposure index of 25, while the Type A Film has an exposure index of 40. The same daylight exposure index of 25 also applies to Kodachrome II Film, Type A, when used outdoors with a No. 85 Daylight Filter. It is recommended that flash pictures be made on Kodachrome II Film for Daylight with either blue flash bulbs or electronic flash. A flash exposure guide number which has been found satisfactory with regular Kodachrome Film for Daylight can be multiplied by 1.6 for use with Kodachrome II Film for Daylight. Available in 828, 35mm (20 & 36 exp.), 8mm roll or magazine and 16mm roll or magazine.

KODACHROME PROFESSIONAL FILM, TYPE A—A color film designed for use in miniature still cameras and balanced for exposure with photoflood lamps.

Processed by reversal, it yields positive transparencies for projection or color printing. The transparencies can be used to obtain Kodachrome or Kodacolor prints and enlargements, and can also be printed on Kodak Ektachrome Paper, by the Kodak Dye Transfer Process, or by photomechanical methods.

KODACOLOR FILM—A dual-purpose color negative film supplied in standard roll-film sizes and designed for exposure in daylight or with clear flash lamps. The negatives can be used to obtain Kodacolor prints and enlargements, or they can be printed on Kodak Ektacolor Paper.

KODAK PAN MASKING FILM, Kodak Matrix Film and Kodak Pan Matrix Film are important in the dye transfer process.

KODAK HIGHLIGHT MASKING FILM is an orthochromatic film of high contrast designed for use in making color prints from transparencies containing important highlight detail.

◆

printing materials for color

KODAK EKTACOLOR PAPER is designed to yield positive, high-quality prints from Ektacolor and Kodacolor negatives. The prints are obtained at a remarkably inexpensive level but as in all photography, their quality will depend largely on the quality of the negative.

Exposure times are approximately the same as they are for the fast black-and-white projection papers. White light exposures are quite adequate, although an electronic densitometer (there are several commercial types available) and a set of the new Kodak CP Acetate Filters will be found helpful. Processing is accomplished in specially compounded chemicals and requires 12 distinct steps in seven preparations in an elapsed time of 42 minutes.

After processing, the material can be air dried or it can be ferrotyped on tins or drums at temperatures no higher than 180 F. Unprocessed material must be maintained at a temperature of 50° or lower when stored for periods of more than 24 hours. Adequate protection from humidity fluctuations is provided unopened packages which are sealed in moisture-proof envelopes and boxes.

Kodak Ektacolor Paper is available only in a surface which will yield either a glossy or a semi-matte finish, depending on whether it is ferrotyped or air dried.

KODAK EKTACHROME PAPER is a reversal color print material intended for the production of pleasing color prints from positive color transparencies such as Ektachrome, Kodachrome, and similar transparencies. It is coated on a medium-weight paper base. The speed of this film is such that the film is suitable for enlarging as well as contact printing. After processing, the material may be either dried or it may be ferrotyped after air drying provided care is taken not to let ferrotyping temperatures exceed 180 F. When stored for periods longer than 24 hours, the unprocessed materials must be maintained at a temperature of 50 F or lower. Protection from humidity fluctuations is provided by heat sealing the material in moisture-proof packages. Kodak Ektachrome Paper is available in a glossy surface.

KODAK EKTACOLOR PRINT FILM yields sharp, brilliant, positive color transparencies which are well suited for display use, or for copy for reproduction in the photomechanical process. The fine-grain characteristics of this film result in transparencies sharp enough for projection as slides. Size of the completed transparency is essentially limitless since Ektacolor Print Film transparencies can be made as large as or larger than those in Kodak's Colorama, which is 18 x 60 feet, at Grand Central Station.

KODAK DYE TRANSFER PAPER is a special pure-white paper which serves to receive the three dye impressions. It is available in double-weight surfaces: F (glossy) and G (fine grained, lustre).

EKTACOLOR SLIDE—Color print film for transparencies from color negatives. Process C-22. 35mm x 100 ft, Sp 663

EKTACHROME REVERSAL PRINT—Color reversal film for duplicate color transparencies. Process E-2. 35mm x 100 ft, Sp 663

INTERNEGATIVE COLOR—Color Negative film for production of negatives from color transparencies. Process N-31. 35mm x 80 ft, Sp 663

KODAK PANALURE PAPER is a panchromatic paper of enlarging speed which produces top-quality black-and-white prints from Ektacolor, Kodacolor, or similar negatives. Used with a tungsten-type enlarger without filters, it offers tone reproductions comparable to the best prints made on professional papers from Kodak black-and-white panchromatic films. The advent of Panalure Paper, therefore, makes it no longer necessary to shoot pictures both in color and in black and white to get both color and black-and-white prints. For the bulk of his photographic work, the professional need only have his camera loaded with Ektacolor or Kodacolor Film. Panalure is available in one contrast grade in E double weight and F single weight, and in regular paper sizes ranging from 5 x 7 to 16 x 20. Processing is done under a Series 10 safelight, the same as that recommended for use with Kodak Ektacolor Paper. Either Kodak Dektol or Selectol Developers may be used. The speed of the paper is the same as that of Kodabromide. And Panalure tones well in all popular toners.

KODAK PRODUCTS FOR MOTION PICTURE RECORDING

motion picture films—8, 16 & 35mm, & high speed

KODACHROME MOVIE FILM, DAYLIGHT TYPE is a color film designed for use in motion picture cameras and balanced for exposure in daylight. Processed by reversal, the film yields full-color pictures for projection. Kodachrome 16mm duplicates are available.

KODACHROME MOVIE FILM, TYPE A is a color film designed for use in motion picture cameras and balanced for exposure with photoflood lamps.

KODAK EKTACHROME ER FILM, DAYLIGHT TYPE is a very fast reversal color film balanced for exposure by light of daylight quality. It is suitable for use in instrument recording, in high-speed cameras, or in any applications where short exposure times or low light levels require high-speed film. It produces projection quality originals with normal processing.

KODAK EKTACHROME ER FILM, TYPE B is a very fast reversal color film balanced for exposure with 3200 K tungsten lamps. It is suitable for use in instrument recording, in high-speed cameras, for movie or sequence photography of nighttime sporting events, or for any other applications where the exposure conditions require a high film speed.

KODAK PLUS-X REVERSAL MOVIE FILM is a black-and-white, medium-speed, fine-grain, reversal-type panchromatic film suitable for general exterior photography and for indoor work where ample light is available. It is also useful for television photography for either studio work or kinescope recording. When processed by reversal methods, it yields a positive image having good contrast and exceptionally low graininess. This positive is suitable for either projection or duplication. When necessary, this film can also be used as a negative material with conventional processing methods, although this practice results in some sacrifice in speed and graininess characteristics.

KODAK TRI-X REVERSAL MOVIE FILM is a black-and-white, extremely high-speed, reversal-type panchromatic film suitable for general interior photography with artificial light. It finds wide application in television, studio photography, and in making pictures of news and sporting events under difficult artificial illumination conditions.

KODAK PLUS-X NEGATIVE MOVIE FILM is a black-and-white, medium-speed, panchromatic negative material well suited to general interior photography with good lighting, and to exterior photography under average lighting conditions. Plus-X Negative for exterior scenes and Tri-X for interior scenes form an ideal combination for production work, since their speed relationship is such that apertures of the same order can be employed for both situations.

KODAK TRI-X NEGATIVE MOVIE FILM is a black-and-white, extremely high-speed negative material of medium graininess, particularly suited to newsreel or sports work and to exterior and interior photography under adverse lighting conditions.

HIGH SPEED INFRARED — Sensitive through visible regions of spectrum and in infrared to approximately 9000 A, with maximum sensitivity 7700 A to 8400 A. Except for speed difference, is same as Infrared.

KODAK FINE GRAIN POSITIVE MOVIE FILM is a black-and-white, extremely fine-grain material suitable for general release printing. Because of its fine grain, high resolving power, and image sharpness, it produces prints of excellent definition and general quality. This film is also useful for making negative or positive titles, dubbing prints for sound, and other purposes, but is not recommended for general camera work.

KODAK WHITE MOVIE LEADER is a white, non-sensitized material which has a special surface that readily accepts pen or pencil identification markings. The use of this material to provide a long leader and long trailer is recommended to help prevent damage to film.

KODAK ROYAL-X PAN RECORDING FILM—An extremely fast panchromatic film of medium contrast and coarse grain. It is intended for instrumentation work where extremely short exposures demand maximum sensitivity. Handle in total darkness. The film is 70mm wide x 100 ft.

◆

processing, duplicating & sound track coating

MOTION PICTURE FILM PROCESSING. Kodak motion-picture films are sold at a price which does not include processing. Kodachrome Film can be processed as follows: (1) By a Kodak laboratory; (2) by any independent laboratory that offers such a processing service. To mail your film to a Kodak laboratory, use a Kodak Prepaid Processing Mailer and follow the instructions printed on it. After processing your film, the laboratory will mail it directly to the address designated on the mailer. Black-and-white motion-picture films are processed by users and by independent laboratories. If difficulty is experienced in locating a suitable laboratory in any particular locality, Eastman Kodak Company, Sales Department, Rochester 4, New York, can supply the name of laboratories serving that area.

KODAK PREPAID PROCESSING MAILERS enable you to mail exposed Kodachrome or Ektachrome Film to any Kodak laboratory for direct first-class mail return to indicated address. 828, 35mm and 127 sizes returned mounted. Magazine film prices are after refund of magazine deposit: Mailer **#PK28** for 8 exp. Kodachrome and Ektachrome 828, **$1.20; #PK20,** for 20 exp. 35mm, **$1.85; #PK36,** for 36 exp. Kodachrome, **$3.05; #PK27,** for 12 exp. Ektachrome, **$1.85; #PK60,** for 8mm mag., **$1.50; #PK59,** for 8mm 25′ roll, **$1.85; #PK47,** for 16mm 50′ mag., **$1.85; #PK49,** for 16mm 100′ roll, **$4.50.** **MAILERS FOR KODACOLOR FILM** enable you to mail film direct to Rochester or Palo Alto Laboratory for developing, printing and first-class mail return. Redemption certificate, good for one Kodacolor print, given with each neg. not printed. Mailer **#DP8,** for 8 exp. roll, includes 8- 3X prints, **$3.20; #DP12,** for 12 exp. roll w/12 3X prints, **$4.35; #DP20-2X,** for 135, 20 exp. roll w/20 2X prints, **$4.90; #DP20-3X,** as above but 3X prints, **$6.70**

DUPLICATES of 16mm Kodachrome Movie Film can be made from either sound or silent 16mm movie footage. A negative sound track is required for making sound duplicates. This service is available from Rochester only. Kodak processing laboratories do not offer a black-and-white duplicating service. Such services are, however, available from a number of independent processing laboratories.

MAGNETIC SOUND COATING can be applied along the edge of processed Kodak movie film (8mm and 16mm) to permit the recording of sound. Kodak Sonotrack Coating is available through Kodak dealers and can be applied to either black-and-white or color films, originals or duplicates, and film perforated along one edge or along both edges. Once this coating has been applied, it can be used to record speech, music, or effects with an 8mm or 16mm sound projector designed for magnetic recording and reproducing. The sound can then be played back immediately, rerecorded, and edited without processing or other photographic handling. Kodak processing laboratories do not apply Sonotrack coating to unprocessed film nor do they accept for processing films which have been coated. It has been our experience that coating unexposed film can, in some instances, lead to a desensitizing effect, as well as difficulties in processing.

SPECIAL SENSITIVITIES

HIGH SPEED INFRARED—Sensitive through visible regions of spectrum and in infrared to approximately 9000 A, with maximum sensitivity 7700 A to 8400 A. Except for speed difference, is same as Infrared, below.	400	HIR	430	417, 421-1	
INFRARED—Moderately high-contrast infrared film. Produces unusual effects with an orange or red filter. Commonly used for distant landscapes to produce detail obscured by atmospheric haze. Useful in medical, scientific and documentary photography and photomicrography.	50	IR		135-20, 401	
SPECTROSCOPIC—Materials used for spectographic analysis. Available in a great variety of sensitivities.	**	None	Sp449	Sp421-1, Sp702	

COLOR NEGATIVE FILMS

Materials which, upon processing, yield color negatives which, in general, can be used to obtain color prints on Kodak Ektacolor paper or by the Kodak Dye Transfer Process. Positive transparencies also can be made on Kodak Ektacolor Print Film.

KODACOLOR—Designed for exposure in either daylight or with clear flashbulbs.	Daylight: 32 Tungsten: 20#-3400°K. 16##-3200°K.	C		135-20	
EKTACOLOR, TYPE S—Designed for making color negatives at exposure times of 1/10 sec. or shorter. Flash and daylight recommended as light sources.	Daylight: 25##	CP		404, 417, 426	473, 474, 477, 488

COLOR REVERSAL FILMS

Materials which yield positive color transparencies upon processing. Can be viewed by transmitted light or projection, can be used to obtain prints and enlargements, can be printed on Kodak Ektachrome paper by Kodak Dye Transfer Process or by Photomechanical methods.

EKTACHROME ER, DAYLIGHT—A very fast film balanced for use in daylight in high-speed, motion picture and still cameras when short exposure times or low light levels require high film speed.	160	ER	430, 432, 433-4, 434, 449, 450, 451-4, 451-12	404, 415, 417, 418-4, 717-4	475, 476-4, 476-10, 477
EKTACHROME ER, TYPE B—Same general description as Ektachrome ER, Daylight, above, but balanced for exposure with 3200° K. lamps.	Tungsten: 125-3200°K. 100‡-3400°K. Daylight: 80‡‡‡‡	ERB	430, 432, 433-4, 434, 449, 450, 451-4, 451-12	404, 415, 417, Sp418-4, 714-4	475, 476-4, 476-10 477
HIGH SPEED EKTACHROME, DAYLIGHT—Very fast film balanced for use in daylight or with electronic flash or blue flashbulbs. Permits making pictures of subjects in rapid motion, with low light levels and extreme depth of field.	160	EH		135-20	
HIGH SPEED EKTACHROME, TUNGSTEN—Balanced for exposure with 3200° K. lamps to make its high speed useful for existing-light pictures.	Tungsten: 125-3200°K. 100‡-3400°K. Daylight: 80##	EHB		135-20	
EKTACHROME, DAYLIGHT (PROCESS E-2)—Balanced for use in daylight.	Daylight: 32 Tungsten: 12‡‡-3400°K.	E		135-20, 404	488
EKTACHROME, TYPE F (PROCESS E-2)—Designed for exposure with clear flashbulbs such as No. 5 or 25. Otherwise, same as Ektachrome, Daylight, above.	Daylight: 16### Tungsten: 12##-3200°K. 16#-3400°K.	EF		135-20, 404	488
EKTACHROME COMMERCIAL, TYPE 7255—Designed to provide a low-contrast original from which color release prints of good projection quality can be made directly onto Eastman Color Print Film, Type 5269. Balanced for 3200° K. lamps.	Daylight: 16‡‡‡ Tungsten: 25-3200°K.	None	Sp430, Sp432, Sp434		
KODACHROME, DAYLIGHT—Balanced for use in daylight.	Daylight: 10 Tungsten: 5‡‡-3400°K.	K	430, 432, 433-4, 447, 448, 449, 450, 451-4, 451-12, 455, 456. 457-4, 457-12	135-20, 135-36	
KODACHROME, TYPE F—Designed for use in miniature still cameras and balanced for exposure with clear flashbulbs, such as No. 5 or 25. Otherwise, same as Kodachrome, Daylight, above.	Daylight: 10### Tungsten: 12#-3400°K.	KF		135-20, 135-36	
KODACHROME, MOVIE FILM, TYPE A—Designed for use in motion picture cameras and balanced for exposure with floodlamps.	Daylight: 10‡‡‡ Tungsten: 16-3400°K.	KA	430, 447, 448, 449, 450, 451-4, 451-12, 455, 456, 457-4, 457-12		
KODACHROME PROFESSIONAL, TYPE A—Designed for use in miniature still cameras and balanced for exposure with floodlamps. Otherwise, same as Kodachrome Daylight, above.	Daylight: 10‡‡‡ Tungsten: 12#-3200°K. 16-3400°K.	KA		135-36	

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*Based on exposure to tungsten radiation.

**Spectroscopic—	103-0—160	I-0—125	IIa-0-16	IV-0-4
	103a-0—125	II-0—25	III-0-10	V-0-0.2

#With Kodak Light Balancing Filter No. 82A.

##With Kodak Light Balancing Filter No. 82C.

###With Kodak Daylight Filter for Kodak Type F color films (Wratten No. 85C).

‡With Kodak Light Balancing Filter No. 81A.

‡‡With Kodak Photoflood Filter for Kodak Daylight Type color films (Wratten No. 80B).

‡‡‡With Kodak Daylight Filter for Kodak Type A color films (Wratten No. 85).

‡‡‡‡With Kodak Daylight Filter for Kodak Type B color films (Wratten No. 85B).

456: 16mm x 200 ft., on Kodak spool (S-94). Otherwise, same as 455.

457: 16mm, darkroom load, perforated one edge on Type T Tenite core for sound pictures. Special order. Winding B supplied. If Winding A is desired, order by Sp612.

469: 70mm x 100 ft., unperforated, on No. 10 spool (S-84). Integral leader and trailer for darkroom loading for the Fairchild-Odelco, Super Speed Photofluorographic, and Phillips Automirror Cameras.

470: 70mm x 100 ft., unperforated, on No. 10 spool (S-84) for Fairchild Fluoro-Record Camera, F-212. Darkroom load with special perforated black film leader and unperforated trailer.

472: 70mm x 100 ft., darkroom load, unperforated, on Type I wood core, for Cunningham, Ve-Ja-De, and similar cameras.

473: 70mm x 100 ft., darkroom load, unperforated, on Type J Tenite core, for Beattie Portronic, Varitron, Mac Van R-70, and similar cameras.

474: 70mm x 100 ft., subdued-light load, unperforated, on No. 10 spool (S-84). All clear-base and Spectroscopic Films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer.

475: 70mm x 100 ft., Type II perforations, on No. 10 spool (S-84). All clear-base and Spectroscopic Films—spliced leader and trailer. All gray-base and Rem Jet films-integral leader and trailer.

476: 70mm x 100 ft., darkroom load, Type I perforations, on Type I wood core.

477: 70mm x 100 ft., subdued-light load, Type I perforations, on No. 10 spool (S-84). For Hulcher and similar cameras. All clear-base and Spectroscopic Films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer.

488: 70mm x 15 ft. (50 exposures), Type II perforations in magazine, for Graflex 70mm Combat Camera and the Graphic "70" Camera. Daylight load. Special order.

651: 35mm, K.S. perforations, on Type AA plastic core. Darkroom load.

702: 35mm x 100 ft., B. & H. perforations, on No. 10 spool (S-83). Spliced leader and trailer.

713: 35mm, B. & H. perforations, on Type R Tenite core, darkroom load.

714: 35mm, B. & H. perforations, on Type R Tenite core, darkroom load. Footage numbered.

753: 35 mm x 100 ft., unperforated, on No. 10 spool (S-83) All clear-base and Spectroscopic Films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer.

763: 35mm, unperforated, on Type R Tenite core, darkroom load.

135-20: 35mm, K.S. perforations, in 20-exposure magazine.

135-36: 35mm, K. S. perforations, in 36-exposure magazine.

STANDARD TYPES OF PERFORATIONS USED ON KODAK FILMS

Designation	American Standard
16mm, perforated 2 edges: 2R—3000	PH22.5—1953
16mm, perforated 1 edge: 1R—3000	PH22.12—1953
35mm, Kodak Standard: KS—1870	PH22.36—1954
35mm, Bell and Howell: BH—1870	PH22.34—1956
70mm American Standard Type 1	PH1.20—1956
70mm, American Standard Type II (MS 33525)*	PH1.20—1956

Illustrations of the above perforations are available on request. Write to: Sales Service Division, Eastman Kodak Co., 343 State St., Rochester 4, N. Y. Ask for Kodak Pamphlet P-25.

* *Preferred Type for new cameras.*

KODAK 16mm, 35mm, and 70mm Films

For explanation of identification and specification numbers listed under film sizes, refer to table at right. If a number is preceded by an Sp designation, use the number only in checking table.

Type of Film and General Description	Relative Sensitivity*	Prefix	Film Sizes 16mm	 35mm	 70mm
PANCHROMATIC Films sensitive to all visible colors including red, as well as to the invisible ultra-violet radiation. Sensitivity approximates that of the human eye.					
ROYAL-X PAN RECORDING—An extremely fast film of medium contrast and coarse grain, intended primarily for instrumentation work where extremely short exposures demand maximum sensitivity.	1250	None	Sp430	Sp417	Sp475
ROYAL PAN—Very fast film of moderate contrast, medium graininess and wide exposure and development latitude.	400	None			Sp473
LINAGRAPH PAN—Extremely fast film, especially useful for recording blue cathoderay oscilloscope traces at very fast writing speeds.	400	LP	430, 449	414, 415, 417, 421-1	
TRI-X PAN—Very fast film of medium graininess for use indoors and outdoors under adverse lighting conditions. Valuable for work demanding high shutter speeds and great depth of field, also for electronic flash.	400	TX		135-20, 135-36, 401, 402, 410, 417, 426, 427	472, 473 474, 477, 488
TRI-X NEGATIVE—Extremely high-speed movie film of medium graininess for making pictures indoors and outdoors under adverse lighting conditions.	400	TXN	430, 432, 433-4, 434, 449, 450, 455, 456	415, 417, 418-4	
TRI-X REVERSAL MOVIE—Same general description as for Tri-X Negative, above. Can be used as a negative material with some loss of speed.	400	TXR	430, 433-4, 447, 449, 450, 451-4, 451-12, 455, 456, 457-4, 457-12		
PLUS-X PAN—A fast film with excellent gradations, very fine grain and high definition which make it particularly well suited for any work when enlargement of negatives is required.	160	PX		135-20, 135-36, 401, 402, 410, 417	472, 473, 488
PLUS-X NEGATIVE MOVIE—Medium-speed negative material well suited for general motion picture photography indoors with good lighting and outdoors under average lighting conditions.	160	PXN	449, 450, 455, 456	417	
PLUS-X PORTRAIT—Same characteristics as Plus-X Pan, except for an additional matte coating which gives improved retouching qualities.	160	PXP		426, 427	472, 473, 474
LINAGRAPH SHELL BURST (GRAY BASE) (IMPROVED)—For 35mm cinetheodolite photography and other uses when maximum contrast is needed to photograph objects against a sky background. Improved type is hardened for high-temperature processing—has improved acutance, greater red sensitivity, is more abrasion-resistant.	100	SG	449	417, 421-1, 421-2, 713-4, Sp713	476, 477
DIRECT POSITIVE PANCHROMATIC—Medium-speed, fine-grain reversal film for making slides.	80	DP		402	
PLUS-X REVERSAL MOVIE—Medium-speed, fine grain movie film ideal for all-around use. Can be used as a negative material with some loss of speed.	80	PXR	430, 447, 449, 450, 451-6, 451-12, 455, 456, 457-4, 457-12		
TIMING NEGATIVE—Medium-speed film with a thinly coated emulsion of fine grain and good resolving power, especially designed for rapid processing.	64	None		Sp753, Sp761, Sp763	
PANATOMIC-X—Extremely fine-grain, high-definition film of moderate speed and contrast for use when a considerable degree of enlargement is required.	40	FX		135-20, 135-36, 401, 402, 410	488
HIGH CONTRAST COPY—Extremely fine-grain, high-contrast, high-resolution film. Records fine detail taithfully.	4	M		402, 417, 135-36	
ORTHOCHROMATIC Films sensitive to ultraviolet, blue-violet, blue, and green, but lacking relative sensitivity to red.					
LINAGRAPH ORTHO (GRAY BASE)—High-speed film used for recording repetitive patterns from green-emitting cathode-ray screens, also for oscillographic recording	125	LOG	430, 449	135-36, 414, 415, 417, 421-1	
LINAGRAPH DRIFT SURVEY—Film of very high contrast and resolving power, intended for well-survey work in photoclinometer cameras. Can withstand temperatures up to 300° F. for 2 hours during exposure.	6	LD	449	135-36	
BLUE SENSITIVE Films with only the ultraviolet and blue-violet sensitivity inherent in the silver halide emulsion.					
PHOTOFLURE, BLUE SENSITIVE—For use with photoradiographic equipment. Maximum sensitivity to blue fluorescent screens. Has anti-abrasion overcoat.	100	PFB			470
ELECTROCARDIOGRAPH—High-contrast emulsion on transparent film base . Used when an electrocardiograph record on a transparent base is desired.	10	None		Sp651 (50-ft.)	
SPECTRUM ANALYSIS NO. 2—Has higher speed, lower contrast and coarser grain, but more uniform contrast through the ultraviolet than does Spectrum Analysis No. 1.	25	ST		413, 421-1	
SPECTRUM ANALYSIS NO. 1—Film used especially in the metallurgical industries. Has low background density and high contrast.	6	SA		413, 421-1	
FINE GRAIN POSITIVE—Low-speed film useful for printing positive transparencies from continuous-tone or line negatives for use in slide projectors.	2	P	451-1, 451-2, 457-1, 457-2	417, 426, 651-1	476

IDENTIFICATION AND SPECIFICATION NUMBERS

401: 35mm x 50 ft., darkroom load Kodak Standard perforations, on Type A wood core, frame numbered.

402: 35mm x 100 ft. Otherwise, same as 401.

403: 35mm x 50 ft., darkroom load, K. S. perforations, on Type U Tenite core, frame numbered.

404: 35mm x 100 ft. Otherwise, same as 403.

410: 35mm x 27½ ft., darkroom load, K. S. perforations, on Type AA plastic core. Notched and tongued for loading in 36-exp magazines. Frame numbered 1-36.

413: 35mm x 100 ft., subdued-light load, Bell & Howell perforations, on No. 10 spool (S-83). Supplied with spliced leader only; cannot be unloaded in daylight.

414: 35mm x 100 ft., subdued-light load, unperforated, on No. 10 spool (S-83). All clear-base films — spliced leader and trailer. All gray-base and Rem Jet films — integral leader and trailer. Small edge printed.

415: 35mm x 100 ft., subdued-light load, K. S. perforations, on No. 10 spool (S-83) for 35mm high speed cameras. Footage numbered with integral leader and trailer.

417: 35mm x 100 ft., subdued-light load, B. & H. perforations, on No. 10 spool (S-83). All clear-base films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer. For Opthalmograph, Eyemo, De Vry, and similar cameras; Graflex Photorecord Microfilm Outfit and 35mm Graflex Photorecord Identification Unit or Camera.

418: 35mm, darkroom load, K.S. perforations, on Type R Tenite core, for 35mm high-speed cameras. Footage numbered.

421: 35mm, darkroom load, B. & H. perforations on Type AA plastic core.

425: 35mm x 100 ft., subdued-light load, unperforated, on Universal Microfilm Spool (S-136). Also on core in 200-, 400-, and 1,000-ft. lengths on special order. All clear-base films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer.

426: 35mm x 100 ft., darkroom load, unperforated, on Type AA plastic core. For Ve-Ja-De, Willson, and similar cameras. Also Beattie Portronic and Alves Copying Cameras. Small edge printed.

427: 35mm x 200 ft. Otherwise, same as 426.

430: 16mm x 100 ft., subdued-light load, perforated two edges with .300-inch pitch on Kodak spool (S-90) for Kodak or other 16mm high-speed cameras. Footage numbered with integral leader and trailer.

432: 16mm x 200 ft., subdued-light load, perforated two edges with .300-inch pitch, on Kodak spool (S-94), for Kodak or other 16mm high-speed cameras. Footage numbered with integral leader and trailer.

433: 16mm, darkroom load, perforated two edges with .300-inch pitch on Type T Tenite core for Kodak or other 16mm high-speed cameras. Special order. Footage numbered.

434: 16mm x 400 ft., subdued-light load, perforated two edges with a .300-inch pitch, on Fairchild high-speed camera spool. Special order.

447: 16mm x 50 ft., Universal Kodak magazine. Perforated two edges for silent pictures. Special order.

448: 16mm x 50 ft., subdued-light load, perforated two edges on Kodak spool (S-89) for silent pictures. All clear-base films—spliced leader and trailer. All gray-base, Rem Jet, and Spectroscopic Films—integral leader and trailer.

449: 16mm x 100 ft., on Kodak spool (S-90). Otherwise, same as 448.

450: 16mm x 200 ft., on Kodak spool (S-94). Otherwise, same as 448.

451: 16mm, darkroom load, perforated two edges on Type T Tenite core for silent pictures. Special order.

455: 16mm x 100 ft., subdued-light load, perforated one edge on Kodak spool (S-90) for sound pictures. Winding B. All clear-base films—spliced leader and trailer. All gray-base and Rem Jet films—integral leader and trailer.

KODAK PRODUCTS FOR PHOTO RECORDING

photo recording films

KODAK VERICHROME PAN FILM FOR USE IN OSCILLOGRAPHS—Kodak Verichrome Pan Film in rolls is supplied especially for use in oscillographs.

KODAK LINAGRAPH ORTHO FILM (GRAY BASE)—A very fast orthochromatic film of moderate contrast, intended primarily for use in cameras photographing cathode ray screens of the green-persistence type. It is also satisfactory for any other purpose where a fast orthochromatic film is required.

KODAK LINAGRAPH PAN FILM—A very fast panchromatic film of medium contrast, intended primarily for photographing cathode-ray screens of the blue-persistence type. This film is also useful wherever an extremely fast panchromatic film is required.

KODAK LINAGRAPH SHELLBURST FILM (GRAY BASE)—This film is useful whenever maximum contrast is desired in photographs of distant objects against a sky background and is expressly designed for cinetheodolite photography.

KODAK LINAGRAPH RECORDING FILM (ESTAR BASE)—A high-contrast, blue-sensitive emulsion of moderate speed used to record traces in oscillographs and from blue-light glow lamps and P11 phosphorus. It is a hard, fast-drying emulsion coated on a support of superior dimensional stability. The antihalation backing disappears very quickly in the developer, producing clear, colorless, fog-free background.

KODAK LINAGRAPH SURVEY FILM—A blue-sensitive emulsion with fine-grain, high resolving power, and very high contrast. The film is intended primarily for recording instruments used in geophysical work. The main application is in oil-well logging. The film, however, is suitable for any instrument where a film record is required of a moving spot of light.

KODAK LINAGRAPH DRIFT SURVEY FILM—Orthochromatic sensitized with high contrast, it is intended primarily for use by the oil industry in cameras such as drift survey cameras and photo clinometers. The film is packaged in a sealed container and, if kept dry during exposure, will stand temperatures of 300F.

KODAK FINE GRAIN POSITIVE FILM—Used for geophysical studies in variable density type seismograph recording equipment.

KODAK ROYAL-X PAN RECORDING—Ultra-fast panchromatic. Not for general use. 100 ft on spool (SP 430).

photo recording papers

KODAK LINAGRAPH DIRECT PRINT PAPER—A high-speed print-out paper that gives an immediate look at the data record without chemical processing. Exposure is made from direct-lighting oscillographs with ultraviolet light sources. The trace record can be made permanent. Available in standard and extra-thin.

KODAK LINAGRAPH 44 — Extra-tough, extra-thin orthochromatic paper for low to relatively high-speed traces.

KODAK LINAGRAPH 697—Most sensitive to blue light. Generally used in recording traces from blue-emitting cathode-ray tubes directly on paper. Suitable for oscillographs used in power stations.

KODAK LINAGRAPH 77—Extra-thin, extra-tough ortho-chromatic paper for extremely high spot velocities. Retains excellent trace density between peaks. Wide exposure latitude permits recording medium speed traces as well, with excellent clarity.

KODAK LINAGRAPH 480—Made expressly for seismography, with sensitivity adequate for a good record in all photo-paper seismography. May be processed in solutions at temperatures as hot as the hands will stand without loss of desirable photographic characteristics. Surface readily accepts calculations in pencil or ink. Packed in metal, slip-cover cans to simplify shipment and storage in the field.

KODAK LINAGRAPH 483—Same emulsion as Kodak Linagraph 480 on an extra-thin base. This makes it easier to copy the records on diazo-type and other photocopying equipment. The additional footage per given roll diameter means longer rolls for all oscillographs.

KODAK LINAGRAPH 809—This has a strong ledger-type paper base that stands the highest paper-advance speeds presently used in oscillography. It has special undercoating beneath the emulsion, designed for optimum trace clarity and resolution. It is easy to write on.

KODAK LINAGRAPH 1127—This paper has a high sensitivity to tungsten light and a good sensitivity to green light, which is valuable in recording from green-emitting cathode-ray tubes.

KODAK LINAGRAPH 1350 (DUAL WINDING)—This is a dual-wound paper of moderate contrast which records two equal density traces at the same time. The bottom layer of lightweight base is coated with Linagraph 480 emulsion. The top layer consists of an extra-thin base coated with an emulsion whose speed is adjusted to match that of the lower layer when the "sandwich" is exposed in a seismograph. Used widely by offshore crews.

SPECIAL SENSITIZED PRODUCTS

kodak autoradiographic plates & films

KODAK AUTORADIOGRAPHIC PLATES, TYPE A are used with β- or γ-emitters. The emulsion has fine grain and high inherent contrast. It is about 25 microns thick and can be supplied with a 0.5-1.0 micron top coating of gelatin for protection against abrasion, which may produce fogged silver grains. (There is no additional charge for this coating, but it must be specified if desired.) Glass thickness is 0.060″. Standard size is 1″ x 3″, but orders for other sizes will be filled as far as possible, provided they are for a minimum of one dozen plates.

KODAK AUTORADIOGRAPHIC PLATES, TYPE NO-SCREEN are supplied in the same way and for the same general applications as **Type A.** They are useful when low radiation flux makes it necessary to sacrifice fineness of grain for higher sensitivity.

KODAK FINE-GRAIN AUTORADIOGRAPHIC STRIPPING PLATE AR. 10 has an emulsion layer 5 microns thick on a gelatin layer of 10 microns. Under favorable conditions a resolution of 2 microns may be obtained.

KODAK AUTORADIOGRAPHIC STRIPPING FILM, TYPE NTB is recommended for autoradiography with β-emitters, It consists of 10 microns of **Kodak Nuclear Track, Type NTB** emulsion on a thin cellulose ester film which is separable from the sheet of ordinary film base that serves as a carrier until use. The impermeable cellulose ester layer tends to eliminate chemical and abrasion artifacts and prevents direct contact between the photographic developer and the radioactive section. In histological work this technique has the extra advantage of preventing staining of the emulsion when using a stained tissue section. The film is supplied as 4″ x 5″ sheets.

KODAK AUTORADIOGRAPHIC PERMEABLE BASE STRIPPING FILM is intended for autoradiography with either α- or β-emitters. It has a 5-micron-thick emulsion, coated atop a 5-micron layer of plain gelatin which provides mechanical support after the two together are stripped off the ordinary film base that acts as a carrier. Emulsion-side down, the combination is then floated onto a slide-mounted histological specimen. Processing solutions permeate the photographically inert gelatin-like emulsion, but since it takes on no density, it cannot contribute to the overlapping of densities from active sites. The film is supplied 35mm wide and unperforated, 5 feet to a roll. (This film is offered as an experimental product, not subject to the same standards of uniformity as regular Kodak products.)

KODAK FROZEN SECTION STRIPPING FILM used in Histological Research.

kodak nuclear track plates

In general, selection of a sensitized material must be done by the investigator on the basis of the concentration, activity, and rate of decay of the radionuclide with which he is working. Resolution is determined not only by the grain size of the emulsion, but also by the respective thickness of section and emulsion and the distance between them. On the other hand, sensitivity considerations with regard to these parameters may operate in the opposite direction.

For recording individual β-particle tracks, the autoradiographer can turn to **Kodak Nuclear Track Plates, Type NTB2** each available in six different thicknesses have proved useful in β-emitter autoradiography for the favorable relation of resolution to sensitivity which they provide.

Kodak Nuclear Track Plates, Types NTB and NTA have worked out well with α-emitters. They are, respectively, more and less sensitive than **Kodak Autoradiographic Permeable Base Stripping Film.**

Type NTB3 is the most sensitive, responding to the lowest rates of energy loss, i.e., the minima of the above curves. Because this material shows background from cosmic radiation, it is shipped immediately after manufacture, should be used immediately upon receipt, and should be processed as soon after exposure as possible. Sensitivity to light and gamma radiation is high. Emulsion thicknesses available on plates: 25, 50, 100, 150, 200 microns.

Type NTC is used for recording fission fragments. Its insensitivity to all agencies short of the extreme ionization of these fragments makes this type useful when it is desired to record their tracks while excluding those of all other types of particles. Impregnation with fissionable material is done by the user. Available on plates only, in emulsion thicknesses of 25 and 50 microns.

kodak timing negative film

KODAK TIMING NEGATIVE FILM A moderately high-speed panchromatic film. It has a thinly coated emulsion of fine grain and high resolving power, and is especially designed for rapid processing.
35mm x 100 ft, Sp 426 (Type AA plastic core, darkroom loading, not perforated)
35mm x 100 ft, Sp 414 (No. 10-35mm spool, subdued light loading, not perforated)
35mm x 200 ft, Sp 427 (Type AA plastic core, darkroom loading, not perforated)

kodak spectroscopic plates & films

THE KODAK RESEARCH LABORATORIES manufacture special plates and films to order as a service to astronomers, optical physicists, and others who require photographic materials with characteristics definable on a basis more systematic than is feasible for commercial products maintained in stock. Over the years this basis for designating films and plates has attained wide acceptance in scientific literature. It designates emulsion type by a number, followed by a letter to indicate spectral sensitivity.

kodak personal monitoring film

PERSONAL MONITORING FILM
***Kodak Personal Monitoring Film, Type 2**
1¼ x 1⅝ in., pkg of 150
***Kodak Personal Neutron Monitoring Film, Type A**
1¼ x 1⅝ in., pkg of 150

kodak SWR plates & films

KODAK SWR PLATES AND FILM These emulsions have very low background density (about 0.1 or less) but, like all emulsions of low gelatin content, are highly sensitive to abrasion. Since the gelatin content is so low, it provides very little protection to the surfaces of the silver halide grains, which therefore are subject to a variety of chemical reactions. Thus it is essential that all SWR materials be stored at a low tempreature (40 F) and that processing solutions be completely free from contaminants. Particular care should be taken to avoid traces of hypo in the developer solution.

kodak plates & films for spectrum analysis

KODAK SPECTRUM ANALYSIS PLATES AND FILMS. Kodak Spectrum Analysis Plate, No. 1, and Kodak Spectrum Analysis Film, No. 1, are materials developed especially for use in spectrographic analysis in the metallurgical industries. They have higher contrast than the usual process plates and films, low background density, and adequate sensitivity. Also, they are suitable for very rapid processing. The film is supplied in 100-foot rolls, 35mm wide, perforated. Kodak Spectrum Analysis plate, No. 2 and Kodak W.O. Spectrum Analysis Film, No. 2, have higher sensitivity, lower contrast, and coarses granularity than the Spectrum Analysis Plate and Film, No. 1, and have more uniform contrast over the range 240 and 440 mμ.

KODAK 33 PLATE supplied in sizes for Spectrographic uses.

kodak plates for layout, gauging & instrumentation

KODAK HIGH RESOLUTION PLATE has very high resolving power and extremely fine granularity. Although it is handled in the same manner as ordinary photographic plates, it can be used with suitable optics to produce reticles where resolving powers of the order of 1000 lines per millimeter are required. This plate has also been used to some extent for electron diffraction work and for microradiography. The High Resolution Plate is manufactured and inspected with utmost precautions to eliminate any surface defects or particles in the emulsion which might be detrimental to the production of reticles. It is normally supplied unbacked, but it can be supplied with backing on special order.

***KODAK PHOTOPLAST PLATES**—Optically clear methyl methacrylate (Plexiglas) with a high-contrast photographic emulsion.

***KODAK TRANSLUCENT PLATES, TYPE 3**—Provide a positive translucent chart which can be placed on the screen of an optional comparator.

KODAK GREEN SCRIBING PLATES—For use in checking the dimensional accuracy of parts with optical comparators.

kodak materials for aerial photography

KODAK SUPER-XX AEROGRAPHIC FILM TYPE 5425—Exposure index 100 Military: Type 1A Class L (Topographic) General purpose mapping film on safety low-shrink support.

KODAK PLUS-X AEROGRAPHIC FILM TYPE 5401—Exposure index 80 Military: Type 1A Class A (Topographic) Higher contrast, high speed, fine grain, high accutance mapping film, hardened for high temperature processing.

KODAK INFRARED AEROGRAPHIC FILM. Type H5424 Exposure Index 125 (No filter) Military: Type 1A Class K (Topographic) Infrared sensitive, high contrast film on safety low-shrink support for haze penetration, oblique long distance photography and special applications.

KODAK PLUS-X AERECON FILM. Type 8401 Exposure Index 80, Military: Type 1B Class A (Reconnaissance) Higher contrast, high speed, fine grain: High acutance film hardened for high temperature rapid processing.

KODAK TRI-X AERECON FILM. Type 8403. Exposure Index 200. Military: Type 1B Class N. A new high speed film having extended red sensitivity with a thin hardened emulsion with high acutance suitable for high temperature rapid processing.

EASTMAN NO. 6 BLACK AND WHITE OPAQUE LEADER. Thickness .00825 inches. Opaque leader, black on one side, white on the other, for processing machines.

KODAK EKTACHROME AERO FILM. Type 8441. Exposure index 40. A high contrast reversal color film designed for aerial photography.

KODAK AEROGRAPHIC DUPLICATING FILM. Type 5427. Military: Type 1A. Class G-2 (Topographic) A blue sensitive, fine grained emulsion on low-shrink safety support for making both intermediate positives and duplicate aero negatives.

KODAK AERIAL PLOTTING PLATES. Medium or Contrast—Antihalation. Flatness Tolerance 0.001 inch per linear inch. Extremely fine grain blue sensitive emulsion on Selected Flat Glass for making diapositives.

KODAK SUPER AEROGRAPHIC POSITIVE PLATES. Medium or Contrast—Without Antihalation Backing. Flatness Tolerance 0.00002 inch per linear inch. Coated on Micro Flat Glass .250 inches thick, for maximum stability to meet critical requirements of integrated photogrammetric systems.

KODAK AEROGRAPHIC POSITIVE PLATES. Medium or Contrast—Antihalation. Flatness Tolerance 0.0005 inches per linear inch. For precision aerial plotting equipment, coated on Ultra Flat Glass.

miscellaneous sensitized goods

FOTOFOIL is sensitized, anodized aluminum foil that can be used for making name plates, dials, scales, and similar indentification markers. **FOTOFOIL** is processed in minutes. No darkroom is needed. Available in most colors 10 sheets, 10x13″, .003″ thick, **$25;** 5 sheets, 12x24″, .008″ thru .004″ **$41 to $70**

BESELER-KALVAR SLIDE-O-FILM makes slides from black-and-white and Kodacolor negatives; negatives from your color slides, Polaroid transparencies and single 8mm or 16mm color or black-and-white movie frames, without darkroom or chemicals. Remarkably adaptable to specialized work with X-rays, microfilm, and other industrial or technical operations. Grainless vesicular emusion; extreme enlargements possible with no quality loss. Permanent Mylar base. Exposure is quickly accomplished by ultra-violet light, development by simple application of heat. 36 exp. 35mm or 24 sheets 2¼x2¼ (latter adaptable for superslides) **$2.95.** Industrial sizes from 2¼x3¼″ to 17x24″ and rolls from 70mmx100′ to 35mmx100′ available. Prices on request.

APPROXIMATE COLOR TEMPERATURES OF COMMON LIGHT SOURCES

Figures below are calibrated in degrees Kelvin

Candle flame	1,500
Incandescent house lamps	2,500- 3,000
60-watt, gas-filled, tungsten-filament lamp	2,800
100-watt, tungsten-filament lamp	2,865
500-watt, tungsten-filament lamp	2,950
1,000-watt, tungsten-filament lamp	3,000
500-watt projection lamp	3,175
3,200° Kelvin floodlamp	3,200
Amber flashlamp (except 25C)	3,200
R32 Reflector flood	3,200
Zirconium concentrated arc	3,200
SM flashlamp	3,300
SF flashlamp	3,400
White, No. 1, No. 2 or No. 4 floodlamp, Reflector flood	3,400
Reflector floods (except R32)	3,400
25C flashlamp	3,400
Warm, white, fluorescent lamp	3,500*
Shredded-foil, clear flashlamp	3,800
Cool, white fluorescent lamp	4,500
Daylight (blue) floodlamp	4,800
White-flame carbon arc	5,000*
M2B flashlamp	5,100
Mean noon sunlight at Washington, D. C.	5,400
High-intensity sun arc	5,550*
Direct sunlight in summer may rise to, or early or late on winter day may drop below	5,800
Direct sunlight between 10 AM-3 PM (average)	6,000
Blue flashlamp (except M2B)	6,000*
Daylight fluorescent lamp	6,500*
Sunlight plus light from clear sky at noon may rise to	6,500
Light from overcast sky	6,800- 7,000
High-speed electronic flashtubes	7,000
Light from hazy or smoky sky	7,500- 8,400
Light from clear blue sky	10,000-27,000

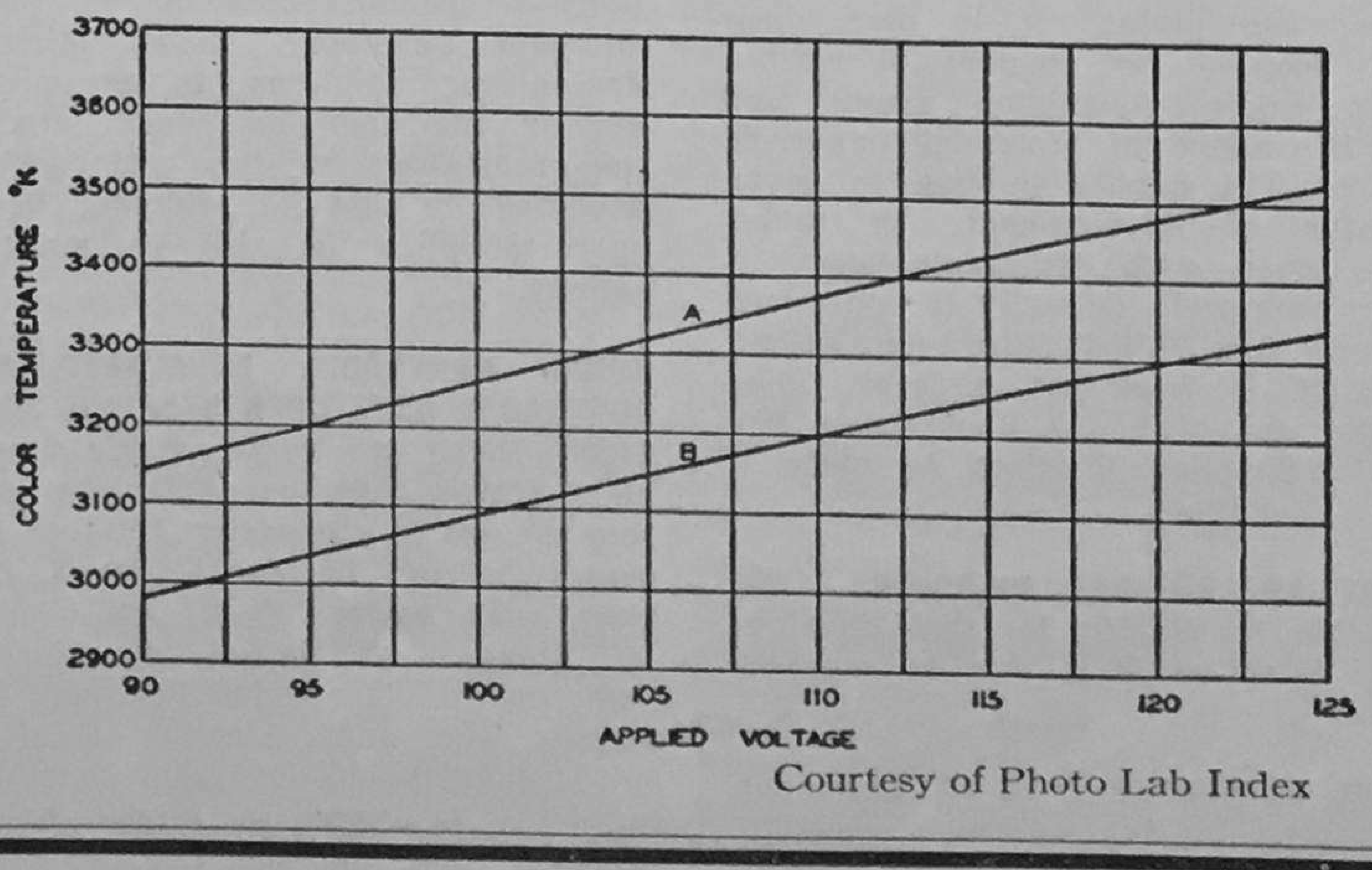
* approximate equivalent visual value

COLOR TEMPERATURE VARIATION

With Applied Voltage to 3200 K and Photoflood Lamps

Accurate color rendition in color photography, especially with color film, depends to a great extent on the color temperature of the light. When the color temperature is too high, the color rendition is excessively blue—when too low, excessively red. A difference in color temperature of 100° K is visible in the final picture.

The color temperature of a lamp varies with the voltage applied. From the chart we can see that a photoflood (Curve A) has a color temperature of 3435° at 115 volts. Should the voltage rise to 125 volts as sometimes occurs, the color temperature of this lamp will be 3535°, a rise of 100°, and the picture will be too blue. Curve B shows the same data for "3200° K" lamps used with color film balanced to 3200° K. These lamps show an indicated color temperature at 115 volts of 3250°, which is the condition for a new lamp. As the lamp ages, the color temperature drops, ending in this case at 3150° K, just before the lamp burns out. For this reason, old and new bulbs should not be mixed when used for color film. Save your old bulbs for black-and-white photography.



Courtesy of Photo Lab Index

Chemicals

KODAK PREPARED CHEMICALS

developers

D-8—Extremely high-contrast, fast, hydroquinone caustic film and plate developer for process work or line-work in which extreme contrast and density are essential. Can be used with both continuous-tone and process materials.

KODAK DEVELOPER D-11—A high-contrast tray or tank developer of the elon-hydroquinone type which produces a high contrast in five minutes in tank development. Recommended for Contrast Process Ortho and Contrast Process Panchromatic Films and Process and Process Panchromatic Plates. Has a capacity of forty 8 x 10-inch sheet films per gallon, or their equivalent. In open tanks, it will keep for a month, being replenished as needed from the stock solution. This developer is ideal for making greeting card masks, as well as slides on Kodak Positive Film. Supplied in sizes to make 1 and 5 gallons.

D-16—For Eastman positive film and variable width sound recording film for motion pictures.

KODAK DEVELOPER D-19—A developer that perfectly fits the needs of the technical photographer. Rapid, clean-working, long-lived, it yields negatives of high contrast in four to five minutes of development. It is particularly well adapted for press photography with appropriate sheet film, high contrast with films and plates, maximum contrast with Infrared Sheet Film. Suitable for aero films, spectroscopic plates, and other technical uses. Supplied in sizes to make 1 and 3½ gallons.

KODAK DEVELOPER DK-50 — Slightly slower-working than DK-60a (see below), this developer is recommended for sheet films, film packs, and plates. In a covered tank, it will keep for one month—in a full-stoppered bottle, six months. Kodak Developer DK-50 is recommended for tray or open-tank use. It is a favorite with portrait studios, commercial studios, and many advanced amateurs.

KODAK REPLENISHER DK-50R—Replenisher for DK-50.

KODAK DEVELOPER DK-60a—For general use in developing roll films, sheet films, and plates. It is particularly well adapted for commercial work—holds original emulsion speed well and is capable of producing negatives of excellent quality in five to seven minutes of development. In tanks, when used with its replenisher, it keeps very well. Capacity is equivalent to forty 8 x 10-inch films per gallon. Capacity is increased several times by the use of Kodak Replenisher DK-60aTR. Supplied in sizes to make 1 and 3½ gallons.

KODAK REPLENISHER DK-60aTR — Replenisher for DK-60a for tank development. Supplied in a size to make 1 gallon.

KODAK DEVELOPER D-76—A developer which produces the maximum emulsion speed and shadow detail with normal contrast. Kodak Developer D-76 is recommended for tray, open or closed tank use. Its development capacity is thirty 8 x 10-inch films, or their equivalent, per gallon. The keeping qualities of this developer are excellent—six months in a full, tightly stoppered bottle. If one developer is to be used for all types of roll film, Kodak Developer D-76 is recommended. Supplied in sizes to make 1 quart, ½, and 10 gallons.

KODAK REPLENISHER D-76R—This replenisher for D-76 Developer extends the latter's capacity to ninety 8 x 10-inch films, or their equivalent, per gallon. Increased development time is unnecessary. Supplied in a size to make 1 gallon.

KODAK DEVELOPER D-88 for Kodak Direct Positive Paper

DURAFIN STARTER—A long-life developer for photofinishing; gives negatives of higher quality.

DURAFIN REPLENISHER for use with **DURAFIN STARTER**

DUROL 7 DEVELOPER
DUROL 7 REPLENISHER for use with DUROL 7 DEVELOPER

KODAK MICRODOL-X DEVELOPER (POWDER)—A new, truly fine-grain developer, balanced to give maximum graininess reduction with good emulsion speed and image sharpness, and particularly suited to the requirements of miniature negatives from which big enlargements are to be made. Microdol-X Developer has little tendency to sludge, and is free from scum on exhaustion, aeration, and replenishment. Its use may be extended to larger-size roll films, film packs, sheets, and plates. Used at 1:3 dilution, Microdol-X produces outstanding image sharpness. Supplied in sizes to make 1 quart, 1 and 5 gallons.

MICRODOL—With most films, gives finest grain with minimum speed loss. Is clean working and has a long life. Particularly suited to requirements of miniature negatives from which big enlargements are to be made. Produces a very low fog level even with forced development of fine-grain films.

KODAK MICRODOL REPLENISHER (POWDER)—A special replenisher for Kodak Microdol Developer. Kodak Microdol Replenisher maintains, to an unusual degree, the emulsion speed, original fine-grain characteristics, and constant development time of Microdol Developer. Supplied in size to make 5 gallons.

KODAK PORTRADOL DEVELOPER AND PORTRADOL DEVELOPER STARTING SOLUTION—These two items provide a complete starter-developer-replenisher system for use in processing 100-foot and longer lengths of Kodak Plus-X Portrait and Kodak Tri-X Pan Films. To prepare an initial or starting bath, one dilutes Kodak Portradol Developer and adds Starting Solution. Full-strength Kodak Portradol Developer is all that is needed for proper replenishment. Thus, together the two products are a stabilized developer system which, with replenishment, provides consistent developer activity, slightly more speed than conventional developers, and long life with sludge-free performance. The developer is supplied in sizes to make 1 and 5 gallons. The starter is supplied in 1-pint size.

KODAK DEKTOL DEVELOPER — Kodak Dektol Developer has great print capacity without sacrifice of print quality. It stays clear throughout the normal life of the solution and, in use, holds its development rate well. It is designed for use with Kodabromide, Kodagraph, Kodak Velox, Velox Rapid, Azo, and Ad-Type Papers, and other developing-out papers. Kodak Dektol Developer is also recommended for lantern slide plates and for films and plates for press photography. Recommended dilution is 1:1 for negative development and 1:2 for paper development. It has a capacity of approximately 120 8 x 10 prints per gallon of working solution. The tones produced with Dektol on any paper are somewhat colder than those obtained with Kodak Selectol Developer. Supplied in sizes to make 1 quart, ½, 1, 5, 25, and 50 gallons.

KODAK DEKTOMAT HI-TEMP SOLUTION—Permits the use of Kodak Dektomat Developer during continuous processing under high-temperature conditions. Supplied in a size to make 16 ounces.

KODAK DEKTOMAT DEVELOPER—An improved paper developer designed especially for continuous processing of single-weight papers. For replenishment, Kodak Dektomat Developer is used without dilution. Dektomat advantages are: ease of use, maintenance of top photographic quality, and image stability. (Requires Kodak Developer Starting Solution.) Supplied in a size to make 25 gallons.

KODAK DUOMAT DEVELOPER—A non-carbonate paper developer for processing cold-tone papers in trays or in continuous paper processors. (Requires Kodak Developer Starting Solution.) Supplied in a size to make 25 gallons.

KODAK SELECTOMAT DEVELOPER—A non-carbonate warm-tone developer for continuous paper processing. (Requires Kodak Developer Starting Solution.) Supplied in a size to make 25 gallons.

KODAK DEVELOPER STARTING SOLUTION—Used when fresh Kodak Dektomat, Duomat, or Selectomat Developers are required.

KODAK EKTONOL DEVELOPER—A non-carbonate warm-tone developer for papers that are to be toned. For tray use only. Supplied in sizes to make 1 and 5 gallons.

KODAK SELECTOL DEVELOPER—An improved paper-developer recommended for use with warm-tone papers such as Kodak Opal, Illustrators' Azo, Illustrators' Special, Portrait Proof, Athena, and Ektalure Papers. Its even rate of development, which it maintains throughout its useful life, speeds print production and holds image color uniform. This developer is recommended when prints are to be toned. It has exceptional keeping qualities. In a 1:1 dilution, it will keep for 36 hours in an open tray. A gallon of solution (1:1 dilution) will develop approximately eighty 8 x 10-inch prints or their equivalent. Kodak Selectol Developer is packaged in sizes to meet both amateur and professional needs. Supplied in sizes to make ½, 1, 5, and 50 gallons.

KODAK SELECTOL-SOFT DEVELOPER—A companion of Selectol Developer. Its use allows greater control of contrast in the print. Prints developed partially in this developer and finished by development in Selectol or complete development in either developer give the photographer a contrast control often needed. Kodak Selectol-Soft Developer is recommanded for warm-tone papers. Diluted 1:1 for use. Supplied in size to make 1 gallon.

KODAK VERSATOL DEVELOPER—A modern, universal prepared liquid developer, Kodak Versatol Developer is remarkably effective and easy to use for films, plates, slides, or papers. Its keeping properties are exceptional. It will remain stable for a long time in a partly empty bottle, and even diluted in an open tray it will retain its life well. It can be diluted to four or eight times its original volume. For tray development of papers, films, and plates, it should be diluted 1:3; for tank development, 1:7. Its high concentration, plus its great capacity, makes it economical to use. Supplied in sizes to make 8 ounce, 1 quart and 1 gallon.

HIGHLIGHT MASK for use with highlight masking film in the dye transfer process.

KODAGRAPH AUTOPOSITIVE PROJECTION for use with Kodagraph autopositive projection paper.

KODAGRAPH for use with all Kodagraph papers except autopositive projection and projection positive.

KODAGRAPH PROJECTION POSITIVE for use with Kodagraph projection positive paper.

KODALITH DEVELOPER—A maximum-contrast, long-life developer especially formulated for processing photomechanical halftone and line negatives and positives. The chemical properties of this developer are such that latent line and dot images are developed to maximum contrast and resolution. Kodalith Developer has excellent stability in solution, with long tray life and superior working capacity. Available in powder form or liquid (in cubitainers) it is designed to work with all Kodalith and Kodak Autopositive materials.

KODALITH FINE LINE DEVELOPER—This is a special-purpose packaged chemical, specifically formulated for the photomechanical reproduction of extremely fine lines. Kodalith Fine Line Developer requires the "still development" technique in processing. Packaged to make 2 or 10 gallons of working solution.

KODALITH SUPER LINE DEVELOPER—The new Kodalith Super Line Developer has unique qualities for production line and halftone work. In addition to day-in, day-out dependability, you'll find it has remarkably long tray life, high capacity, exceptionally clear working solution, and is easy to mix.

UNIVERSAL M-Q — An all-purpose developer supplied in packets and having generally the same qualities as Versatol. It is a little slower to dissolve but has less bulk and weight to store. Results are repeatable, since the mixed developer is not intended to be stored.

KODAK MAGENTA DEVELOPER—This developer is used in the Kodak Magenta Masking Method for photomechanical color correction. Packaged to make 5 quarts of developer.

KODAK PHOTOTYPESETTING DEVELOPER is recommended for both the film and paper. It has good working life and produces consistent high-contrast images.

stop baths, fixers & hardeners

TRI-CHEM PACK contains, in a pocket-size package, all chemicals needed to develop, stop, and fix two rolls of 620 film or fifty 2½ by 3½-inch prints (or their equivalents). Chemicals are Universal M-Q Developer, Universal Stop Bath (with-indicator), and Universal Fixer.

KODAK UNIVERSAL STOP BATH (WITH INDICATOR)—A single-powder preparation available in cartons of 6 packets. Each packet makes 8 ounces of stop bath which changes color on exhaustion.

KODAK INDICATOR STOP BATH—A concentrated liquid stop bath which, when diluted with water for use, signals that it has reached the point of exhaustion by turning purplish-blue (dark under safelight illumination). The ratio of dilution is one-half ounce of concentrate to one quart of water. Supplied in a size to make 8 gallons.

KODAK STOPOMAT—A stop bath in powder form for continuous paper processing only. It is used in conjunction with Kodak Fixomat. Supplied in a size to make 25 gallons.

KODAK HI-MATIC STOP—A new powder stop bath preparation for continuous paper processing. When used with Kodak Hi-Matic Fixer, Kodak Hi-Matic Stop makes possible more rapid processing while still maintaining print permanence. Supplied in a size to make 25 gallons.

KODAK FIXOMAT—A new powder preparation for use as a paper fixer in continuous paper processing only. It is economical, clean-working, and efficient. Supplied in a size to make 25 gallons.

KODAK HI-MATIC FIXER—A powder fixing preparation for use in continuous paper processing. When used with Kodak Hi-Matic Stop, Hi-Matic Fixer makes possible more rapid processing while still maintaining print permanence. Supplied in a size to make 35 gallons.

KODAK ACID FIXER—An improved, single-powder hardening fixer for films, plates, and papers. It keeps well in solution and may be stored in a stoppered bottle after each use until the fixing time becomes excessive.

KODAFIX SOLUTION—A concentrated single-solution fixer for films, plates, and papers. Its long life, high capacity, and convenience of preparation make it popular for general-purpose use. Diluted 1 to 3 for films, 1 to 7 for prints. Supplied in a size to make 1 gallon.

KODAK PHOTO-FIX—A single-powder preparation for fixing-hardening baths intended primarily for use with papers. Specially prepared for professional and commercial use, Kodak Photo-Fix has all the fixing, hardening, and capacity characteristics of the F-5 formula. Supplied in sizes to make 1-quart and 25-gallons.

KODAK RAPID FIXER (WITH HARDENER)—A rapid, long-lasting liquid fixer. Primarily intended for films and plates, it also works very well with papers. Advantages are speed, capacity, and ease of handling. Already in liquid form, it needs only dilution with water. Supplied in sizes to make 1, 5, and 24 gallons of film fixer (twice these amounts of paper fixer). Solution A and B concentrates also supplied separately in Cubitainers—Solution A, in 5 gallon Cubitainer, plus ½ gallon of solution B, makes 20 gallons of film fixer or 40 gallons of paper fixer. Solution B is supplied in 1 and 5 gallon Cubitainers.

KODAGRAPH FIXER—Ideally suited for fixing Kodagraph Films and Papers, this fast acting fixer has excellent tray life.

ACID HARDENER—an additive to Hypo bath.

KODAK LIQUID HARDENER—An acid stop bath is quickly made by diluting one ounce of Liquid Hardener in sixteen ounces of water. A fixing-hardening bath is made by adding four ounces of Hardener to one pound of hypo dissolved in two quarts of water. Supplied in a size to make 1 gallon.

processing aids

KODAK ANTI-CALCIUM—Prevents or minimizes formation of hard-water calcium precipitates in all developers except the caustic type. When Kodak Anti-Calcium is added, the solution remains clear, permitting easy judgment of quality as the image develops. It also helps prevent the formation of scum on negatives and scale on darkroom equipment. Kodak Anti-Calcium is not necessary when using the following Kodak Developers: Durol, Microdol, Selectol, Selectol-Soft, Dektol, Dektomat, and Versatol. Supplied in 1-pound size.

KODAK ANTI-FOAM—After some use, photographic solutions often tend to produce froth and foam when agitated. This causes air bells and results in spots and stains on the film or paper emulsion. One or two drops of Kodak Anti-Foam will prevent this. It is a clear, colorless liquid for use with all developing, fixing and stop baths. Supplied in a 1-ounce size.

KODAK DESENSITIZER—Used in a bath prior to development, this desensitizer permits fast panchromatic and orthochromatic films to be inspected by safelight during development. It is packaged both as a concentrated solution and in powder form.

KODAK DEVELOPER SYSTEM CLEANER—With prolonged use; developer tanks and recirculating systems of processing machines sometimes become coated with a silver scale. Kodak Developer System Cleaner provides a means of removing this scale.

KODAK HYPO CLEARING AGENT—A processing aid which conserves water in the washing of films and papers. Treatment in it for two minutes in the case of either films or single-weight papers reduces washing times to ten minutes. (Three-minute treatment in the case of double-weight papers.) Effectiveness is not reduced by cold wash water, which may be as low as 35 F. Hypo Clearing Agent is supplied in sizes to make 5 and 25 gallons of working solution. If desired, chemicals may be dissolved in ⅘ of the specified volume of water to make a stock solution. For use dilute the stock solution 1:4.

KODAK PHOTO-FLO SOLUTION—A wetting agent that reduces surface tension of water, permitting it to run off film and paper surfaces. Prevents water marks and streaks during drying. Kodak Photo-Flo Solution also facilitates smooth application of water colors and opaques.

KODAK PRINT FLATTENING SOLUTION—A preparation to preserve the flexibility of prints. Used after thorough fixing and washing, it will help prevent curling, cracking, excessive drying of the emulsion, and unwanted lifting of prints from ferrotype plates. Supplied in 8-ounce and 1-gallon sizes.

KODAK TESTING OUTFIT FOR PRINT STOP BATHS AND FIXING BATHS—Consists of two 1-ounce bottles with droppers, a glass vial, and directions. One bottle provides the means of determining when any fixing bath has been exhausted. The other bottle serves the same purpose for stop baths. Each can be purchased separately.

KODAK TESTING SOLUTION A FOR PRINT STOP BATHS
KODAK TESTING SOLUTION B FOR PRINT FIXING BATHS. BOTH SUPPLIED IN 8-OUNCE BOTTLES.

KODAK CHROMIUM INTENSIFIER—Designed for adding density to weak, flat negatives, lantern slides, and black-and-white transparencies. A single package holds the powders to make separate bleaching and clearing solutions. After treatment, the negative must be redeveloped in a non-staining developer, such as Kodak Versatol or Kodak Universal M-Q. This intensifier produces a stable image and has a capacity of about 400 square inches of film.

KODAK FARMER'S REDUCER—Corrects negatives which are too dense, either as a result of overexposure or overdevelopment. It is also useful in cleaning and sharpening line work in negatives and slides. The extent of the reduction can be easily controlled by visual examination during the treatment. A single packet holds the chemicals for two separate solutions.

KODAFLAT SOLUTION—For applying a tacky surface to metal or glass to hold film or paper flat in the camera. Packaged in quarts.

KODAK OPAQUE—For the blocking out and retouching of negatives and positives. Supplied in 1- or 8-ounce bottles in both black and red.

KODALITH STRIPPING FILM CEMENT—For use as an aid in making the thin stripping-film skin adhere to glass. Available in quart bottles.

KODAGRAPH ERADICATOR—Eliminates unwanted lines on all Kodagraph papers. Supplied in set of two ounce bottles of A&B solution.

toners

KODAK POLY-TONER—A single-solution direct toner capable of producing a variety of tones by varying dilution. Tones range from reddish brown (similar to Kodak Rapid Selenium Toner) through intermediate tones to a very warm brown (similar to Kodak Brown Toner). Kodak Poly-Toner works at room temperature, is suitable for use in either tray or continuous processors, and can be replenished to maintain consistency of hue. Supplied in 1-quart and 1-gallon sizes.

KODAK BROWN TONER—Beautiful warm-tone prints of exceptional permanence can be produced with this single-solution sulfide toner. Usable under ordinary lighting conditions, Kodak Brown Toner needs only dilution with water. At 68 F, prints can be toned in 15 or 20 minutes or complete toning is possible in three or four minutes at 100 F. Neither bleaching nor redeveloping is necessary. The eight-ounce bottle, which makes two gallons of diluted solution, will tone approximately three hundred 8 x 10 prints or their equivalent. Pleasing permanent brown tones are produced on papers such as Kodak Azo, Illustrators' Azo, Opal, Illustrators' Special, and Portrait Proof R. Through choice of paper and by variation in exposure and development the photographer can easily obtain a wide range of tonal effects. Packaged in concentrated liquid form to make 8-ounces and 1-gallon.

KODAK RAPID SELENIUM TONER—A concentrated, long-lived, single-solution brown toner which can be diluted with three parts water for complete toning or with nine parts water for intermediate tones. Easy to use, it has no marked odor, and can be used at room temperature. Repeatable tones and tone control can be obtained. The permanence of the toned image is equivalent to that of sulfide-toned prints. The approximate capacity of one gallon of 1:3 diluted solution is one hundred 8 x 10-inch prints or their equivalent. Kodak Rapid Selenium Toner is well suited for use with warm-tone papers such as Kodak Opal, Illustrators' Azo, Illustrators' Special, and Portrait Proof. It is conveniently packaged in the form of a concentrated solution in 8-ounce, 1-quart, and 1-gallon sizes.

KODAK SEPIA TONER—By bleaching and redevelopment this toner produces warm brown tones on cold-toned papers, lantern slides and transparencies. Available in matchbook-style packets containing two foil envelopes. Each packet is sufficient to make one quart each of bleach bath and toning bath. Stock solutions can be used repeatedly until exhaustion. When stored in full, tightly stoppered bottles, the solution made by the contents of each envelope has a capacity of fifty 2½ x 3½-inch prints.

KODAK BLUE TONER—In powder form to make a single solution, this gold chloride toner produces excellent cold-blue tones on warm-tone papers. The image it produces is as stable as the silver image itself. When used on prints previously sepia-toned, delightful reddish tones are the result. The contents of the two envelopes in each package when dissolved in water, will make one quart of solution. Capacity, about fifteen 8x10 prints, or their equivalent.

lacquers & protectorants

KODAK BRUSHING LACQUER NO. 4—An extremely flat dead-black brushing lacquer for killing reflections. Supplied in 4 oz. bottles.

KODAK FILM LACQUER—Protects film or slides against finger marks. Supplied in 4 oz. bottle.

KODAK PRINT LACQUER—Protects black-and-white, hand-colored, or color prints against finger marks. May be applied by dipping, brushing, or spraying. Coated prints may be washed with soap and water. Supplied in 1-gallon can.

KODAK PRINT LACQUER THINNER—Use for thinning Print Lacquer when it becomes too thick from evaporation of solvents . . . or for removing Print Lacquer. Supplied in 16 oz. can.

KODAK TESTED CHEMICALS

KODAK TESTED CHEMICALS are carefully prepared and purified suitable for photographic use. They are not intended for and are not to be sold for drug purposes.
Acetic Acid, Kodak, 28%—16-oz bottle
Acetic Acid, Kodak Glacial—16-oz bottle, 1-gal jug.
Benzyl Alcohol, Kodak—1-gal can
Borax, Kodak—1-lb bottle
Boric Acid, Kodak—5-lb bottle, 25-lb drum

Citrazine Acid, Kodak—1-lb, 5-lb.

Citric Acid, Kodak, Crystals—1-lb bottle

Elon Developing Agent, Kodak—1-lb bottle, 25-lb drum, 100-lb drum, 225-lb drum

Formaldehyde, Kodak—(about 37% solution by weight) 1-lb bottle

Gold Chloride, Kodak—15-grain ampule

Hydroquinone, Kodak—1-lb bottle, 5-lb bottle, 25-lb, 100-lb, 225-lb drums.

Kodalk Balanced Alkali—1-lb bottle, 5-lb bottle, 25-lb drum, 100-lb drum

Potassium Alum, Kodak, Fine Granular—5-lb bottle, 25-lb drum, 100-lb drum

Potassium Bmomide Kodak—1-lb, 5-lb

Potassium Chrome Alum, Kodak, Crystals—1-lb bottle, 25-lb drum, 100-lb drum

Potassium Dichromate, Kodak (Bichromate)—1-lb bottle, 25-lb drum

Potassium Ferricyanide, Kodak — 1-lb bottle, 5-lb bottle, 100-lb drum

Potassium Persulfate, Kodak—1-lb bottle

Silver Nitrate Crystals, Kodak—1-oz, 16-oz, 100- or 750-oz bottles

Sodium Acetate, Kodak (Desiccated)—Carton of 10 packets, each to make 4 oz of 5% solution, 1-lb bottle

Sodium Bisulfite, Kodak — 1-lb bottle, 25-lb drum, 100-lb drum

Sodium Carbonate, Kodak (Monohydrated)—1-lb bottle, 25-lb drum, 100-lb drum

Sodium Hydroxide, Kodak, Granular—1-lb bottle

Sodium Sulfate, Kodak (Desiccated)—5-lb bottle, 25-lb drum, 100-lb drum

Sodium Sulfide, Kodak—1-lb bottle

Sodium Sulfite, Kodak (Desiccated)—1-lb bottle, 5-lb bottle, 25-lb drum, 100-lb drum

Sodium Thiocyanate, Kodak (Sodium Sulfocyanate)—4-oz bottle, 5-lb bottle

Sodium Thiosulfate, Kodak (Hypo) Prismatic Type—1-lb carton

Sodium Thiosulfate, Kodak (Hypo)—Available in Prismatic type, 100-lb bags or drums

Thiourea, Kodak—1-lb bottle

special process chemicals

DIRECT POSITIVE FILM DEVELOPING OUTFIT consists of necessary chemicals for processing.

DIRECT POSITIVE FILM REDEVELOPER

DIRECT POSITIVE PAPER B/W OUTFIT consists of necessary chemicals for paper processing.

KODAK BLEACH for Kodak Direct Positive Paper. 1 Gal.

KODAK CLEARING BATH for Kodak Direct Positive Paper. 1 Gal.

KODAK SEPIA REDEVELOPER for Kodak Direct Positive Paper. 1 Gal.

PHOTO RESIST—an all-plastic, presensitized liquid surface coating. When dried it is waterproof, acid resistant, and alkali resistant. It is stable—plates can be precoated and stored for use as needed.

PHOTO RESIST DEVELOPER—to develop images on Kodak Photo Resist plates.

PHOTO RESIST DYE (black)—for viewing images for inspection and correction.

PHOTO RESIST THINNER (for Photoengraving)—for special applications such as industrial etching and photo circuit work.

PHOTO RESIST THINNER (for Photolithography—to soften the KPR coating in the area that is to be removed.

METAL-ETCH RESIST—for etching or chemical milling of plates.

METAL-ETCH RESIST DEVELOPER—for treating plates; the protected areas will resist the action of the etching solutions.

METAL-ETCH RESIST THINNER—used with KMER for thinner coatings or where spray application is desired.

LINAGRAPH DEVELOPER—for all Linagraph materials other than direct print paper. 5 Gal.

LINAGRAPH PERMANIZING DEVELOPER—for use with Linagraph Direct Print paper. 1 Gal.

LINAGRAPH SP PROCESSING KIT for use in consolidated stabilizing processes.

LINAGRAPH STOP BATH for use with Linagraph developer. 5 Qt.

LINAGRAPH FIXER for use with Linagraph papers. 5 Qt.

EKTAGRAPH ACTIVATOR—with Ektagraph film for use in the preparation of silk screen stencils. Gal.

EKTAGRAPH STRIPPING SOLVENT—used to remove the backing from Ektagraph film after processing. Qt. & Gal.

preparations for color processes

CHEMICALS FOR THE KODAK DYE TRANSFER PROCESS—The chemicals required in processing Kodak Matrix Films are Kodak Tanning Developers A and B, Kodak Matrix Film Fixer, and Kodak Matrix Clearing Bath. Kodak Matrix Dyes are supplied in 1-gallon sets or separately in a 5-gallon size. For dye control, Kodak Matrix Highlight Reducer, sodium acetate, ammonium hydroxide, and acetic acid are required. If highlight masking is employed in the Dye Transfer Process. Kodak Highlight Masking Developer is supplied for use with Kodak Highlight Masking Film.

KODAK DYE TRANSFER CHEMICALS

Kodak Tanning Developer A—Carton of 8 packet units, each to make 1 qt.

Kodak Tanning Developer B—To make 1 qt., 1 gal., 5 gal.

Kodak Matrix Film Fixer—To make 1 gal.

Kodak Matrix Clearing Bath—To make 1 qt.

Kodak Dye Transfer Paper Conditioner—To make 1 gal.

Kodak Matrix Dye Set—1-gal. size.

Kodak Matrix Dye and Buffer—Magenta, Cyan, or Yellow. To make 5 gal.

Kodak Matrix Highlight Reducer—Carton of 6 packet units, each to make 1 qt.

Kodak Glacial Acetic Acid, Kodak Sodium Acetate Highlight Mask Developer, —To make 1 gal.

KODAK EKTACHROME CHEMICALS—The processing chemicals for Kodak Ektachome Roll and 35mm Films are designated Process E-2. For the occasional processor, chemicals are supplied in kit form and in 1-pint and ½-gallon sizes. The 1-pint kit, comprised of sufficient chemicals to prepare two 1-pint units of each processing solution, is ideal for those processing an occasional roll in a small roll-film tank. Separate units are also available in the ½-gallon size.

KODAK EKTACHROME FILM CHEMICALS

Kodak Ektachrome Film Processing Kit, Process E-2 Improved Type — Package of 2 units, each to make 1 pt. To make ½ gal.

Kodak Ektachrome Film Processing Kit, Process E-3—Package of 2 units, each to make 1 pt. To make ½ gal, 1 gal, 3½ gal.

SEPARATE UNITS

Kodak Ektachrome Film First Developer, Process E-2 Improved Type—To make ½ gal, 3½ gal, 10 gal, 25 gal

Kodak Ektachrome Film First Developer, Process E-3—To make ½ gal, 1 gal, 3½ gal, 10 gal, 25 gal.

Kodak Ektachrome Film Color Developer, Process E-2 Improved Type and E-3—To make ½ gal, 1 gal, 3½ gal, 3½ gal, 10 gal

Kodak Ektachrome Film Hardener, Processes E-2 Improved Type, and E-3—To make ½ gal, 1 gal, 3½ gal, 10 gal, 25 gal.

Kodak Ektachrome Film Clearing Bath, Processes E-2 Improved Type and E-3—Package of 6 packets, each to make ½ gal. Package of 6 packets each to make 1 gal. To make 3½ gal, 10 gal, 25 gal.

Kodak Ektachrome Flim Bleach, Processes E-2 Improved Type and E-3—To make ½ gal, 1 gal, 3½ gal, 10 gal, 25 gal.

Kodak Ektachrome Film Fixing Bath, Processes E-2 Improved Type and E-3—To make ½ gal, 1 gal, 3½ gal, 10 gal, 25 gal.

Kodak Liquid Fixer and Replenisher, Processes C-22, E-2, and E-3—To make 5 gal, 25 gal.

KODAK EKTACHROME FILM CHEMICALS (continued)

Kodak Ektachrome Film Stabilizer, Processes E-2 Improved Type and E-3—To make ½ gal, 1 gal, 3½ gal, 10 gal, 25 gal.

REPLENISHERS

Kodak Ektachrome Film First Developer Replenisher, Process E-2 Improved Type—To make 5 gal, 25 gal.

Kodak Ektachrome Film First Developer Replenisher Process E-3—To make 5 gal.

Kodak Ektachrome Film Color Developer Replenisher, Processes E-2 Improved Type and E-3—To make 5 gal, 25 gal.

KODAK CHEMICALS FOR KODACOLOR, KODAK EKTACOLOR, AND EKTACOLOR PRINT FILMS—Kodacolor, Kodak Ektacolor Films, Type S and Type L, and Ektacolor Print Film, are all processed in the chemicals designated Process C-22. For the occasional user and small-volume processor, these chemicals are available in complete kit form—1-pint size for small roll-film tanks and 1-gallon size for small-volume processing of sheet film. These processing kits contain two units of developer and stop bath to balance the processing capacity.

KODAK COLOR FILM PROCESSING CHEMICALS, PROCESS C-22

Kodak Color Processing Kit, Process C-22—To make 1 pt, 1 gal.

SEPARATE UNITS

Kodak Developer, Process C-22 — To make 3½ gal, 10 gal, 25 gal.

Kodak Developer Replenisher, Process C-22—To make 5 gal, 25 gal.

Kodak Stop Bath, Process C-22 — To make 3½ gal.

Kodak Stop Bath and Replenisher, Processes C-22 and P-122—To make 5 gal, 25 gal.

Kodak Hardener, Process C-22 —To make 3½ gal.

Kodak Hardener and Replenisher, Process C-22—To make 5 gal, 25 gal.

Kodak Bleach, Process C-22—To make 3½ gal.

Kodak Bleach and Replenisher, Process C-22—To make 5 gal, 25 gal.

Kodak Fixer, Process C-22 — To make 3½ gal.

Kodak Liquid Fixer and Replenisher, Processes C-22, E-2, and E-3—To make make 5 gal, 25 gal.

CHEMICALS FOR KODAK EKTACOLOR PAPER—Processing chemicals for Kodak Ektacolor Paper are designated Process P-122. For small-scale processing in trays, they are available in a 1-gallon size as a complete processing kit or as separate units. These chemicals are also available as processing kits or as separate units for use in 3½-gallon tanks employing the Kodak Processing Basket.

KODAK COLOR PRINT PROCESSING CHEMICALS, PROCESS P-122 (for Kodak Ektacolor Paper)

Kodak Color Print Processing Kit, Process P-122—To make 1 gal, 3½ gal.

SEPARATE UNITS

Kodak Developer, Process P-122 — To make 1 gal, 3½ gal, 10 gal, 25 gal.

Kodak Developer Replenisher, Process P-122—To make 5 gal, 25 gal.

Kodak Stop Bath, Process P-122 — To make 1 gal, 3½ gal.

Kodak Stop Bath and Replenisher, Processes C-22 and P-122—To make 5 gal, 25 gal.

Kodak First Fixing Bath, Process P-122—To make 1 gal, 3½ gal.

Kodak First-Hardener Fixer and Replenisher, Process P-122 (Must be used with Kodak Buffer and Replenisher, Process P-122)—To make 5 gal, 25 gal.

Kodak Bleach, Process P-122—To make 1 gal, 3½ gal.

Kodak Bleach and Replenisher, Process P-122—To make 5 gal, 25 gal.

Kodak Hardener Fixing Bath, Process P-122—To make 1 gal, 3½ gal.

Kodak Hardener, Process P-122 — To make 1 gal, 3½ gal.

Kodak Hardener and Replenisher, Process P-122—To make 5 gal, 25 gal.

Kodak Buffer, Process P-122—To make 1 gal, 3½ gal.

Kodak Buffer and Replenisher, Process P-122—To make 5 gal, 25 gal.

CHEMICALS FOR KODAK EKTACHROME PAPER—Processing chemicals for Kodak Ektachrome Paper are designated Process P-111. For tray processing, they are available in a 3½-gallon size in kit form or as separate units.

KODAK COLOR PRINT PROCESSING CHEMICALS, PROCESS P-111 (for Kodak Ektachrome Paper)

Kodak Color Print Processing Kit, Process P-111—To make 3½ gal.

SEPARATE UNITS

Kodak First Developer, Process P-111—To make 3½ gal, 10 gal, 25 gal.

Kodak First Stop Bath, Process P-111—To make 3½ gal, 10 gal, 25 gal.

Kodak Color Developer, Process P-111—To make 3½ gal, 10 gal, 25 gal.

Kodak Hardener Stop Bath, Process P-111—To make 3½ gal, 10 gal, 25 gal.

Kodak Bleach, Process P-111—To make 3½ gal, 10 gal, 25 gal.

Kodak Hardener Fixing Bath, Process P-111—To make 3½ gal, 10 gal, 25 gal.

REPLENISHERS

Kodak First Developer Replenisher, Process P-111—To make 5 gal, 25 gal.

Kodak Color Developer Replenisher, Process P-111—To make 5 gal, 25 gal.

KODAK CHEMICAL SUNDRIES

Anti-Fog, Kodak, No. 1 (AF-70) (Benzotriazole)—1-oz bottle, 1-lb bottle, 50-tablet bottle.

Anti-Fog, Kodak, No. 2 (AF-71) (6-Nitrobenzimidazole Nitrate—5-lb bottle.

Anti-Fog Kodak No. 5 (AF-74) (5-Methylbenzotriazole)—1-lb bottle.

Balancing Developing Agent, Kodak, BD-80 (Mono-Benzyl-Para-Aminophenol Hydrochloride)—5-lb drum.

Balancing Developing Agent, Kodak, BD-82 (Sodium Hydroquinone Monosulfonate)—25-lb drum.

Balancing Developing Agent, Kodak, BD-83 (Diethylhydroxylamine Oxalate)—1-gal jug.

Color Developing Agent, Kodak, CD-1 (N, N-Diethyl-p-phenylenediamine Monohydrochloride)—5-lb bottle, 50-lb drum.

Color Developing Agent, Kodak, CD-2 (2-Amino-5-diethylaminotoluene Monohydrochloride)—5-lb bottle, 50-lb drum.

Color Developing Agent, Kodak, CD-3 (4-Amino-N-ethyl-N-[β-methanesulfonamidoethyl]-m-toluidine sesquisulfate Monohydrate—5-lb bottle, 50-lb drum.

Coupling Agent, Kodak, C-10 (2,6-Dibromo-1,5-dihydroxynaphthalene) — 5-lb drum, 25-lb drum.

Coupling Agent, Kodak, C-11 (2,4-Dichloro-5-[p-toluenesulfonylamino]-1-naphthol)—5-lb drum.

Coupling Agent, Kodak, M-31 (2-Cyanoacetylcoumarone) — 5-lb drum, 25-lb drum.

Coupling Agent, Kodak, M-32 (1-phenyl-3-[3,4-dichlorobenzamido]-5-pyrazolone)—5-lb drum.

Coupling Agent, Kodak, M-34 (1-Phenyl-3-[n-nitrobenzamido]--Pyrazolene) — 5-lb drum,

Coupling Agent, Kodak, Y-50 (4-[p-Toluenesulfonylamino]-ω-benzoylacetanilide)—5-lb drum, 25-lb drum..

Developing Accelerator, Kodak (Ethylenediamine Sulfate)—5-lb bottle 25-lb drum.

Gelatin, Kodak, O.C. 200—25-lb drum.

CHECK LIST

Every department needs a check-up once in a while—how about yours? Is there something that should be serviced, repaired, or replaced? We've provided these two pages for your use; whether it's for a special job, or something new for your present operation, jot it down. For any photographic application, our store is ready to help you.

Cameras and Gallery:

Darkroom:

Studio:

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Miscellaneous:

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Cameras — data recording, portrait, drawing reproduction, surveillance, oscilloscope, press, copy, commercial, identification, graphic arts
Chemicals — prepared, liquid, bulk (for graphic arts, professional, industrial, photofinishing — color, black & white)
Chemical mixers
Contact screens and tints — film, glass
Color films
Darkroom accessories and equipment — densitometers, dryers, storage tanks and delivery, nitrogen burst equipment, static eliminating, processing baskets, temperature control valves, hangers, holders
Dry mounting tissue and equipment
Ektalith equipment and supplies
Electronic flash units — studio, press, graphic arts, medical
Enlargers and accessories — drawing reproduction, portraiture, color separation, commercial
Exposure meters and controls
Films (sheet and roll) — graphic reproduction, industrial, professional, commercial, photo-recording
Filters and accessories (color, B/W)
Flashguns, bulbs and batteries
Frames, folders, mounts, mailers
Fotofoil: name plates
Illuminators — transparency
Lenses and accessories
Light integrators
Lighting — equipment (incandescent, arc, strobe, fluorescent, flash, pulsating xenon) and accessories (safelights, viewing lights)
Magnifiers
Microfilm and equipment — for 35mm, 70mm, 105mm
Miscellaneous office equipment and materials
Offset equipment and supplies— plate making equipment and accessories, cameras, fountain solutions, ink, stencils, hand cleaners, offset plates (metal, paper), tables (light, line-up, make-up)
Opaques and stripping equipment
Paper (photographic) — graphic reproduction, recording, portrait, phototypesetting
Paper cutters
Photo blotters
Photo-identification units
Photofinishing laboratory equipment (color, B/W)
Photographic surveillance systems
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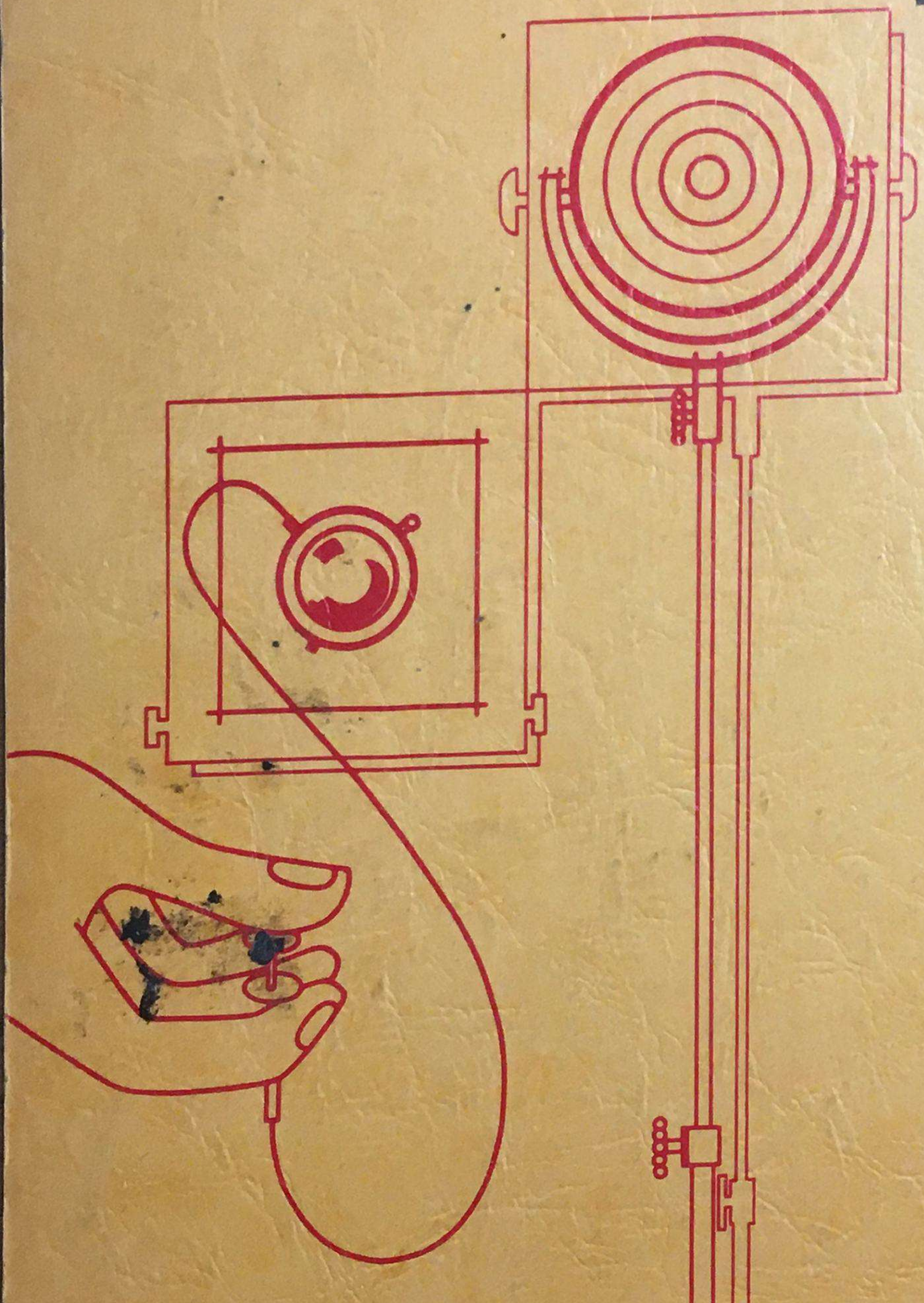

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